

**GENERAL REPORT TO BE PRESENTED BY EACH DELEGATION DURING THE ASECAP STUDY AND  
INFORMATION DAYS  
OSLO, 30 MAY – 2 JUNE 2010**

**Kapsch Telematic Services  
GENERAL REPORT**

***PREAMBLE***

**The Konsorcium Kapsch** is the General Supplier of the Toll Collection System on Roads and Provider of Services Related to the Operation of the Toll Collection System.

**The Road and Motorway Directorate of the Czech Republic** is the Operator of Toll Collection System on Roads. RMD is the organizational organ of the Ministry of Transport of Czech Republic.

***Introduction***

The Czech Government discussed the introduction of the road toll shortly after the country joined the European Union (EU) in 2004. The primary reasons for this were:

- Change of time-based taxation to a more just performance-based charging where a user pays for the number of kilometres travelled
- Increase of funds flowing into road management;
- Attempt to balance the conditions for road and railroad transport as well as the related eventual reduction of increased truck traffic in the Czech Republic;
- Possibility to introduce telematic services.

The EU membership of the Czech Republic and the related expectations of highly increased transit truck traffic resulted in a demand for specifying an electronic toll collection system that would offer maximum user comfort.

The considered systems should not discriminate international carriers who occasionally use the chargeable road network in the country compared to the domestic carriers, who use it frequently. This is the reason why the competitors in the tendering process for the toll only included those who offered a system based on the microwave (DSRC) communication. One of the benefits of the microwave toll system is the use of low-cost and easy-to install onboard units (OBU), which can be very easily distributed, installed and uninstalled into a vehicle. That this requirement was justified is confirmed by the experience from the first months of the system's operation, primarily by the continuously growing number of active OBUs. If we compare this system with the satellite-based one, there is no doubt that the acquisition costs of the first one are higher. However the savings on acquiring more affordable low-cost and easy-to install OBUs have entirely eliminated the extra cost by now. They have proven to be the right decision.

The Czech Government decided to cover the costs for upgrading and maintenance of the transport infrastructure by introducing a distance-based truck toll. This road toll applies to Czech and foreign road users alike. On January 1, 2007, the Czech nationwide electronic toll collection system for heavy vehicles with a maximum permissible laden weight of 12 tons and above started commercial operation. As mentioned above, the system is fully electronic, using DSRC technology to achieve multi lane free flow toll collection.

Within nine months from the date of contract signature, Kapsch, as the chosen supplier, was able to design, develop, manufacture, erect, integrate and implement this complex toll collection system, including setting up a nationwide distribution network for OBUs with pre-pay and post-pay capabilities, as well as establish multilingual services and a support network to enable technical and commercial operation of the system.

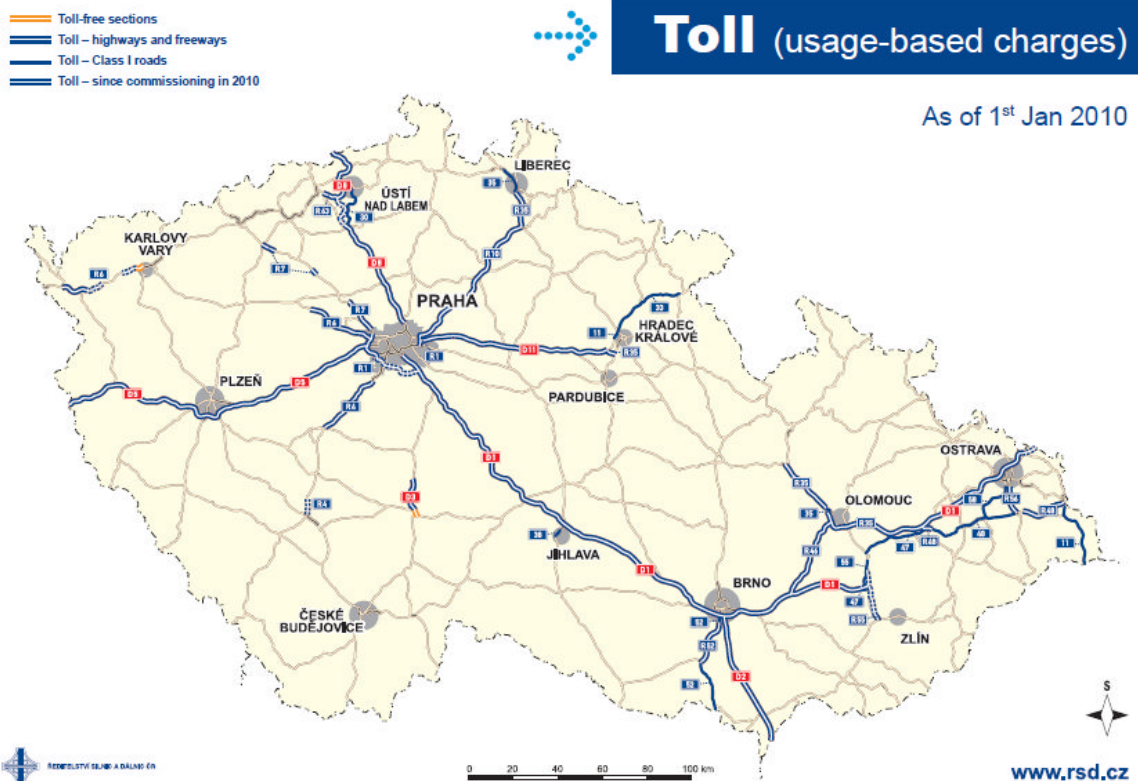
## Network length

In 2007 the electronic toll system was implemented for one part of the network - on 970 km of motorways and expressways. After evaluation of technical and economical aspects the Czech Ministry of Transport decided to complete electronic tolling on the motorway and expressway network with microwave technology due to the undeniable benefit of this technology. That means approximately 170 km of selected 1st class roads used for transit and 50 km in 2008 and another 90 km in 2009 of new sections of highways and motorways have been tolled with microwave technology. The length of the Czech tolled road network consisting of all roads reached 1236,5 km by January 1, 2010.

The system based on microwave technology will be upgraded in the future to include another approximately 1,000 km of future road network. The construction or extension of additional road network is scheduled for the end of 2017.

Since 1<sup>st</sup> January of 2010 the toll system was extended for vehicles over 3,5 tons. Tolling for these vehicles is for all charged roads in the Czech Republic.

## Maps of the Czech tolled road network at January 1, 2010, source: by RMD Czech Republic



- Toll-free sections
- Toll sections
- Toll sections  
— since commissioning in 2010



## Toll stickers (time-based charges)

As of 1<sup>st</sup> Jan 2010



### ***Investments***

The complete price of the whole toll project represents the delivery of the toll system, its implementation, setting into the commercial operation and 10 years of the operation services.

Phase 1 of the toll project including 970 km of motorways and expressways represents approximately 3,5 Mld CZK (EUR 125 million) without VAT which is planned to be paid during the first 3 years of the systems operation.

During three years of commercial operation the average performance of the tolling system has been calculated with more than 99% (required performance in the toll tender was 95 %).

### ***Financing***

As of 11 July 2007, after only 6 months of operation the total amount of the tolls collected reached the total capital expenditure. This excellent indicator is in addition amplified by the fact that the system was built using the contractor's method, meaning that the general contractor bears the initial costs related to the construction – which is a type of PPP project! The state will reimburse the general contractor for those costs gradually within a horizon of 30 months after the launch of the system.

### ***Traffic***

Total number of truck km travelled with a permissible total weight of 12 tons and more reached over 1,43 billion km in 2009.

The average daily traffic of heavy vehicles with a maximum permissible laden weight of 12 tons per truck km amounted to 3120 in 2009. It means total travelled km per 365 days and the total length of road network subjects to toll.

The good performance is demonstrated also by the number of OBU units – at the end of December 2009, almost 412.315 active OBUs were registered by the system, which exceeded even the highest expectations before the launch of toll system!

## Active OBU 1<sup>st</sup> January

2008 – 289 500  
2009 – 357 113  
2010 – 412 315

## Annual toll revenues (in million Euros)

2008 – 245,4  
2009 – 221,7

## Payment in 2009

Pre pay = 44 %  
Post pay = 56 %

Local lorries = 58 %  
Foreign lorries = 42 %

The decrease in toll revenues in 2009 showed the intensity of the impact of the economy crisis in Europe.

Toll statistics have shown that the highest movement of tractor-trailers takes place in the third decade of each month. Records usually occur between the 20th and 30th day of each month, which is most likely related to economic production cycles.

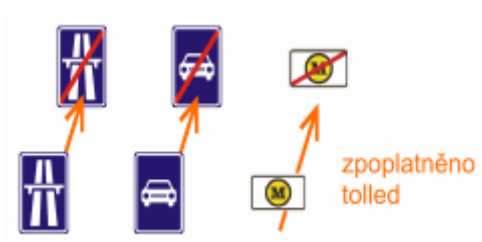
## Tolls

Putting the motorways and expressways as a subject to toll charges is regulated by the amended Act no. 13/1997 Coll. for the Road Network.

The usage of motorways, expressways and selected roads in Czech Republic by heavy vehicles with a permitted total weight equal or greater than 12 tons is subject to toll (distance based charge). Such vehicles are not obliged any more to fix a vignette (time based toll sticker) on their windshields.

## Tolled roads and sections are delimited by traffic signs

(Motorway — Expressway — Tolled Road)



## Overview Emission Categories and Toll Rates

### Time-based toll charge (motorway coupons)

The fees for the use of motorways and expressways by road motor vehicles are set by the Government Directive no. 272/2007 Coll., which came into effect on January 2008.

The length of the Czech time - based tolled roads was 970,6 km in 2009.

The fee for the use of a motorway and expressway by a road motor vehicle (hereinafter referred to as a "motor vehicle") with at least four wheels or for an articulated vehicle is:

a) For one calendar year for a motor vehicle or an articulated vehicle:

- 1) with the total weight up to 3.5 tonnes – CZK 1000 ( € 40 )
- 2) with the total weight over 3.5 tonnes and less than 12 tonnes - CZK 8,000 ( € 320 )

b) For one calendar month for a motor vehicle or an articulated vehicle:

- 1) with the total weight up to 3,5 tonnes - CZK 330 ( € 13,2 )
- 2) with the total weight over 3.5 tonnes and less than 12 tonnes - CZK 2000 ( € 80 )

c) For seven days for a motor vehicle or an articulated vehicle:

- 1) with the total weight up to 3,5 tonnes - CZK 220 ( € 8,9 )
- 2) with the total weight over 3.5 tonnes and less than 12 tonnes - CZK 750 ( € 30 )

### Distance-based toll charge

Toll rates are stipulated by Czech Government Regulation No. 272/2007 Coll. The amount of toll for the use of a particular section of a tolled road depends on the length of the section and the category of the respective vehicle, depending on the number of axles and the emissions class of the vehicle.

Toll Rates [CZK/km]						
	Emission Class Euro0-2			Emission Class Euro3-5		
	Number of Axles					
	2	3	4+	2	3	4+
Highways and Motorways	2,30	3,70	5,40	1,70	2,90	4,20
The 1st class roads	1,10	1,80	2,60	0,80	1,40	2,00

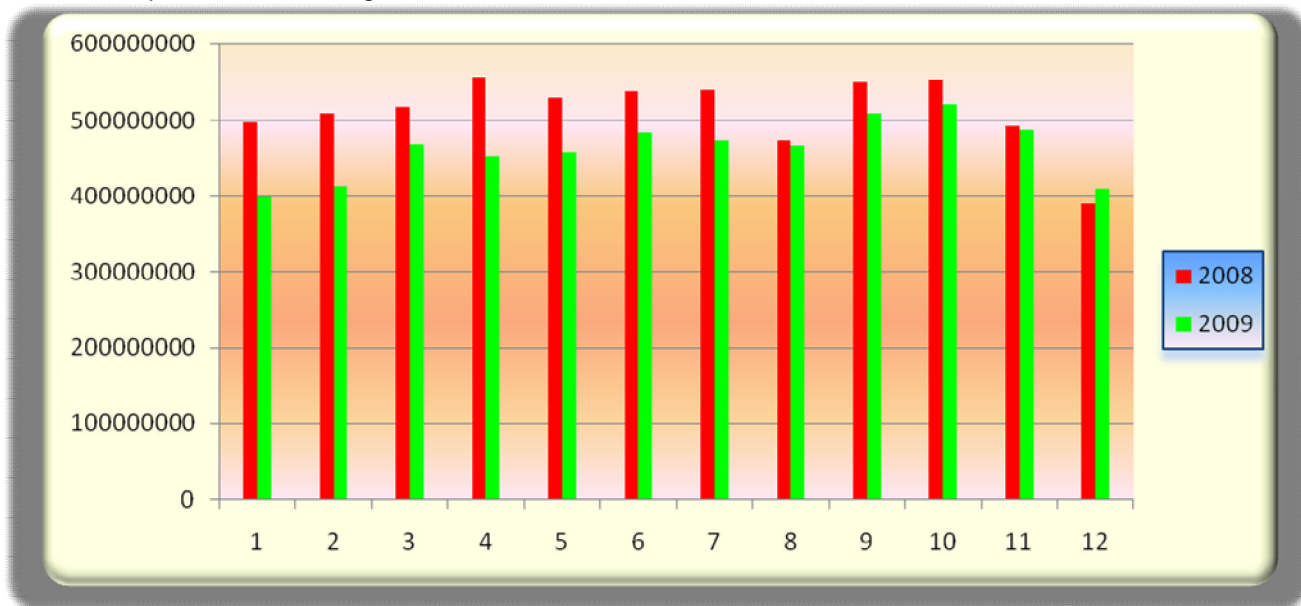
Toll Rates [€ /km]						
	Emission Class Euro0-2			Emission Class Euro3-5		
	Number of Axles					
	2	3	4+	2	3	4+
Highways and Motorways	0,092	0,148	0,216	0,068	0,116	0,168
The 1th class roads	0,044	0,072	0,104	0,032	0,056	0,08

Notice: The exchange rate with Euro: 1€ = 25 CZK

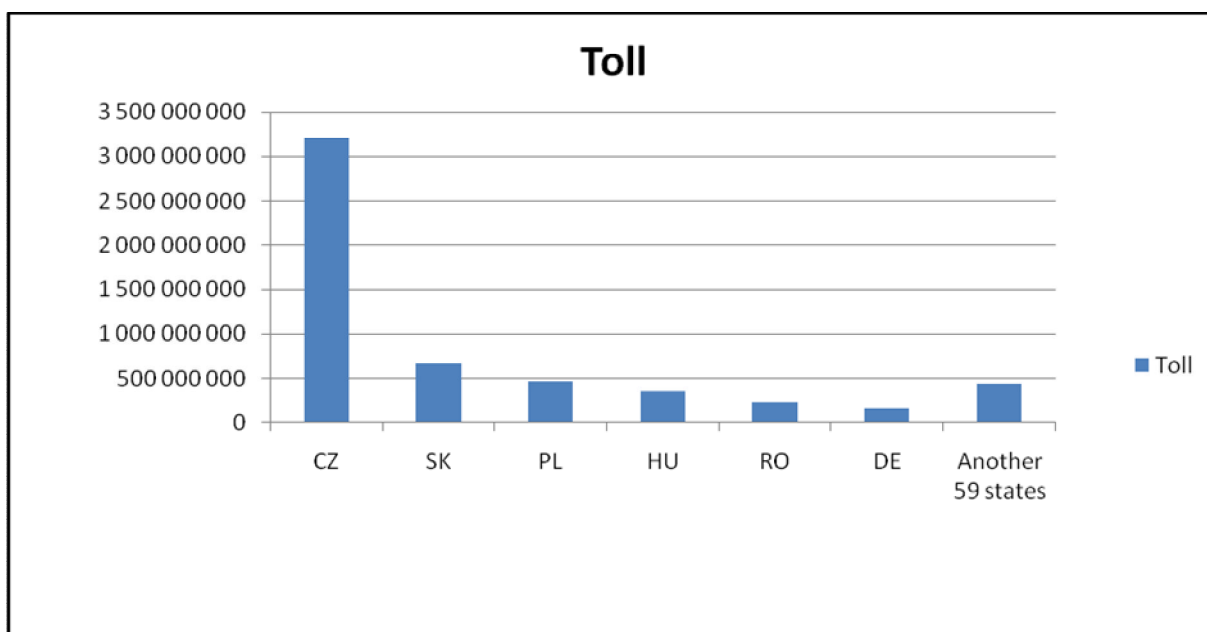
### Revenues

The yearly toll revenue in 2008 was EUR 245,4 million.  
 In 2009 the yearly toll revenue decreased to EUR 221,7 million. The decrease in toll revenues in 2009 showed the intensity of the impact of the economy crisis in Europe.

Income comparison shows diagram ... in CZK



Source: RMD Czech Republic  
States participation ... in CZK 2009



State	Toll
CZ	3.208.816.802
SK	674.516.288
PL	473.048.067
HU	363.389.425
RO	218.011.959
DE	159.883.966
Another 59 states	438.533.531

Source: RMD Czech Republic ... in CZK

### Significant actions already started and foreseen for 2010

Since 1<sup>st</sup> January of 2010 the Czech Ministry of Transport started the distance-related toll extension in order to cover all vehicles over 3.5 tons.

Since 2010 there also new tariffs for time based tolling and for distance based tolling.

#### Time based tolling

Stickers (< 3.5 t)

Applies to all vehicles of total weight under 3.5 tons (motorbikes are free of charge). Since 2010 vehicles with gross vehicle weight under 3.5 tons - regardless of trailer weight - use stickers.

#### Prices of stickers in 2010

Validity period	Price
Annual	1,200 CZK(46,9EUR)
Month	350 CZK(13,6EUR)
Week	250 CZK(9,7EUR)

**Distance based tolling** due to Regulation Nr. 26/2010 Coll. by the Government of the Czech Republic

valid from February 1st. 2010

#### Toll rates for highway

On Friday from 3 pm up to 9 pm

Table of toll rates (Kč/km)					
Emission Class up to Euro II			Emission Class Euro III and higher		
Number of Axles					
2	3	4+	2	3	4+
2,87	5,55	8,10	2,12	4,35	6,30

In other time of week

Table of toll rates (Kč/km)					
Emission Class up to Euro II			Emission Class Euro III and higher		
Number of Axles					
2	3	4+	2	3	4+
2,26	3,63	5,30	1,67	2,85	4,12

#### Toll rates for main road

On Friday from 3 pm up to 9 pm

Table of toll rates (Kč/km)					
Emission Class up to Euro II			Emission Class Euro III and higher		
Number of Axles					
2	3	4+	2	3	4+
1,37	2,70	3,90	1,00	2,10	3,00

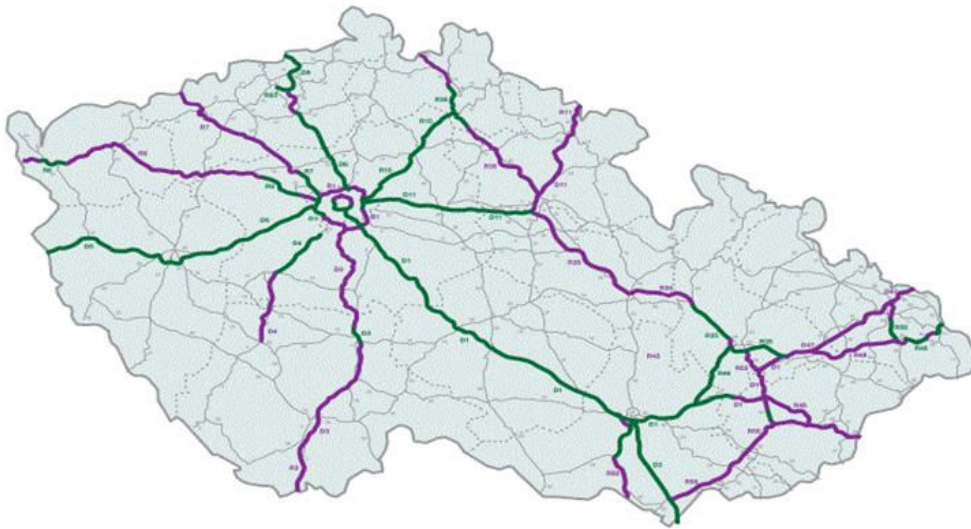
In other time of week

Table of toll rates (Kč/km)					
Emission Class up to Euro II			Emission Class Euro III and higher		
Number of Axles					
2	3	4+	2	3	4+
1,08	1,77	2,55	0,79	1,37	1,96

in CZK

The Czech Republic has recently decided that Kapsch will upgrade the future toll system in order to include another approximately 1,000 km of future motorways. The construction or extension is scheduled to begin by the end of 2017.

# Tollable Highways and Motorways by 2013 – 2015 with microwave.



Source: Ministry of Transport, Czech Republic



The Czech Ministry of Transport and the Road and Motorway Directorate of the Czech Republic who is the owner of the Czech electronic toll system - made the decision to use the existing toll system for other purposes like traffic management, road safety & other telematic applications. Thus Kapsch will supply an interface for telematic applications and the implementation of the Traffic Management System for D1 motorway route (like traffic flow sensor detection, monitoring cameras, variable traffic signs, traffic information facilities, etc.). The project aims at improving road safety and optimizing traffic flow.

For the further extended use of the toll system the Czech Ministry of Transport has recently instructed Kapsch to implement the interface for a future DSRC- satellite-based hybrid toll collection system on the 1st class, 2nd class and 3rd class roads. The goal is a so-called hybrid electronic tolling. Such a combination of the two technologies is conditional to reach the compatibility of both systems.

## MAIN ASECAP KEY FIGURES

<b>Country: Czech Republic</b>	2010	2009
The length of the Czech tolled road network in Km	1318,6	1236,5
Highways	715,5	704,2
Motorways	406,8	360,1
The 1st class roads (all 1st class roads 5 836km)	172,2	172,2
No. of km in construction	262,9	87,8
Highways	76,9	38,1
Motorways	74,2	19,3
The 1st class roads	111,8	30,4
Forecasts of opening motorways in Km	82,1	77,9
Highways	11,3	38,1
Motorways	46,7	16,8
The 1st class roads	24,1	23
Annual toll revenue in Million Euros		221,7
Permanent staff		141
Average daily traffic (LV)		NA
Average daily traffic (HV ≥ 12 tons)		3120
Average daily traffic (LV+HV)		NA
Total number of accidents on all roads (55600km)		74815
No. of personal injury accidents on all roads		27313
No. of dead on all roads		832
Km travelled Trucks ≥ 12 tons (10 <sup>6</sup> x km)		1437
No. of toll plazas		0
No. of lanes		NA
No. of teletoll equipped lanes		0

No. of active OBUs		412 315
No. of Contact and Distribution Points with Toll service		15 + 250 = 265
No. of rest areas with station services on Highways only		64
No. of restaurants		NA
No. of hotels		NA