

**TEMPLATE OF THE NATIONAL REPORT
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Kapsch Telematic Services, Czech Republic

GENERAL REPORT

PREAMBLE

The Consortium 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 the Czech Republic.

CGI (earlier LogicaCMG) is the independent auditor that measures the efficiency of the toll collection.

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 on board units (OBU), which can be very easily distributed, installed and uninstalled into a vehicle. That this requirement was justified and confirmed by the experience from the first months of the system 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 multilane 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.

Since the year 2007, when the electronic tolling system started, several changes and adjustments have been brought into operation in the Czech electronic tolling system.

Since 1st January 2010 the tolling system was extended for vehicles over 3,5 tons within the nationwide tolled road network.

In August 2011 a new category "Bus" was introduced and deployed into the system, providing discounted tariffs for the carriers operating public passenger service.

The increase of road transport led to implementation of toll Discount System in year 2012, which was destined for big vehicle operators with a high amount of paid electronic toll. Some vehicles may achieve up to 13% discount from the whole sum of paid toll per year.

The Czech government has decided about increasing the toll rates since 1st January 2015 and about implementing a new emission category Euro 6. The best toll rate was applied onto the new category Euro 6 as a preference of vehicles with emission level EEV and Euro 6. This should have a big ecological effect, influence on decreasing of the environmental contamination and on air pollution - through higher toll rates for old vehicles which goes hand in hand with renewal of vehicle fleet.

From the past year clients of Czech tolling system have a possibility to use free Mobile App MYTOCZ, available for mobile platforms Android, iOS and Windows, which displays on a cellphone an overview of vehicle registration data, prepaid toll balance, information about the toll system and relevant news.

On 28 August 2016 the prolongation of the 10 year tolling contract was signed by Ministry of Transport. The contract with Kapsch is closed for up to max next 3 years. It includes the operation of tolling system itself, delivery of OBUs and incorporation of EETS (already integrated during 2017) to the system upon to client's needs, maximal 195 million Eur.

In year 2017 was announced a new Electronic Toll System tender by Ministry of Transport. The public contract shall have the form of negotiated tender, the new contractor should be known within year 2018.

The efficiency of the toll collection -which is measured by an independent auditor - is long-standing on a high grade, in the past year it was over 99,5%.

In 2018 Ministry of Transport decided about a new operator of the tolling system, company Skytoll, from the year 2020. After 13 years of trouble-free toll system operation KTS at the same time terminates its service.

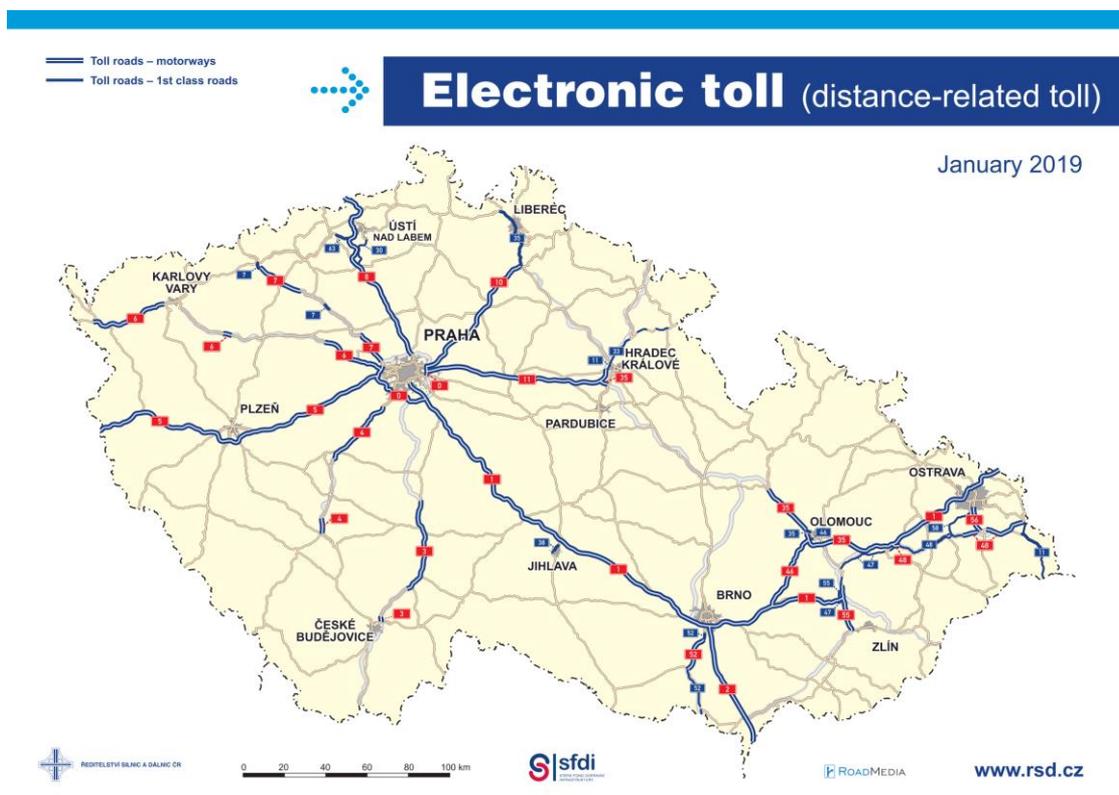
In 2018 KTS within wide consortium of partners completed project RODOS- Dynamic Mobile Model of the Czech republic (DMM), serving as a platform supporting ITS projects.

Network length

The length of the Czech tolled network has increased from 1468,3 (as for 1.1.2018) up to 1472,3 km (January 2019). The total length of all roads in the Czech Republic comes up to 56.000 km.

The most motorways in Czech Republic are 2x2 lanes, the type of lane 3x2 were put to use only in in three locations – in big traffic nodes of national importance and big cities. From overall length 1472,3 km of motorways are 40,8 km of them built as 3x2 lanes.

In year 2018 the overall length of tunnels longer than 500 m was 14,2 km and we had 11 tunnels in operation.



Czech Republic

Vignettes (time-related toll)

→ 2019



Our first map shows actual toll duty on roads for vehicles over 3,5 t. On the Map No.2 you can see the actual vignettes duty situation with marked roads free of charge.

Openings in 2019

In the year 2019 several sections are foreseen to be newly opened. Prolongation of the main motorway D1 is planned to be open: Přerov – Lipník nad Bečvou (14,3 km). On the motorway D3 is planned to be open: Bošilec – Ševětín (8,1 km)

This year the total length of motorways will increase about 22,4 kilometers.

Investments

The total amount of investments into existing network: renovation, big repairs and new facilities, like ITS equipment or similar on existing motorways in the year 2018 was 147,12 M€.

New investment into new constructions and expansions done on motorways in the calendar year 2018 was 516,33 M€.

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 reimburses the general contractor for those costs gradually within a horizon of 30 months after the launch of the system.

Traffic

As an universal indicator of traffic of vehicles over 3,5 tons in Czech republic we consider the traffic volume (average daily vehicles which means the result of the ratio between the summation of vehicles-km and the summation of the lengths of the motorways axis as for the year 2018) which makes 5188.

In comparison to previous years, we can observe an increasing tendency of the traffic volume. In year 2017 this indicator was 4938, only few years ago – in year 2013 the average daily traffic got through the limit 4000, so we can see a perceptible progress the last few years. The information about traffic volume for vehicles under 3,5 tons isn't available.

Tolling system and tolling technologies used

This is a multi-lane free flow system which uses antennas mounted on gantries above the highway which communicate with OBUs installed on the windscreen of passing trucks. Changing lanes while passing beneath the gantries does not influence the tolling transaction. The tolling process is fully automatic and requires no intervention on the part of the driver.

Technology used: DSRC 5.8 GHz microwave technology and DSRC-MLFF technology. In horizon of few years there is no change in this domain expected.

Toll rates

Toll rates as for 01/01/2019

Emission class	EURO 0-II			EURO III-IV			EURO V			<i>tarif Euro6</i> EURO VI, EEV		
	2	3	4+	2	3	4+	2	3	4+	2	3	4+
Motorways	3,34	5,70	8,24	2,82	4,81	6,97	1,83	3,13	4,52	1,67	2,85	4,12
-- Friday 15-20 h	4,24	8,10	11,76	3,58	6,87	9,94	2,33	4,46	6,46	2,12	4,05	5,88
1st class roads	1,58	2,74	3,92	1,33	2,31	3,31	0,87	1,50	2,15	0,79	1,37	1,96
-- Friday 15-20 h	2,00	3,92	5,60	1,69	3,31	4,74	1,10	2,15	3,07	1,00	1,96	2,80
Busses	1,38			1,15			1,04			0,80		

Electronic toll rates haven't changed since 01st January 2015 and it isn't expected any price increase for this year in the moment.

The main vehicle categories over 3,5 tons are:

Category M: motor vehicles, which have at least four wheels and are used for transport of persons. (category BUS)

Category N: motor vehicles, which have at least four wheels and are used for transport of goods. (category TRUCK)

Time-based toll charge (vignette)

Time/Period	Within 3,5t
10 days	12,5 EUR
One month	18 EUR
One year	60,5 EUR

The fees for 2018 for the use of motorways and expressways by road motor vehicles of total weight under 3,5 tons (motorbikes are free of charge) were set by Government Directive No. 354/2011 Coll., which came into effect on 1st December 2011 (there is no change of vignette rates since year 2012).

The variation between charges in EUR is caused because of noticeable change of currency exchange rate in the past year.

Revenues

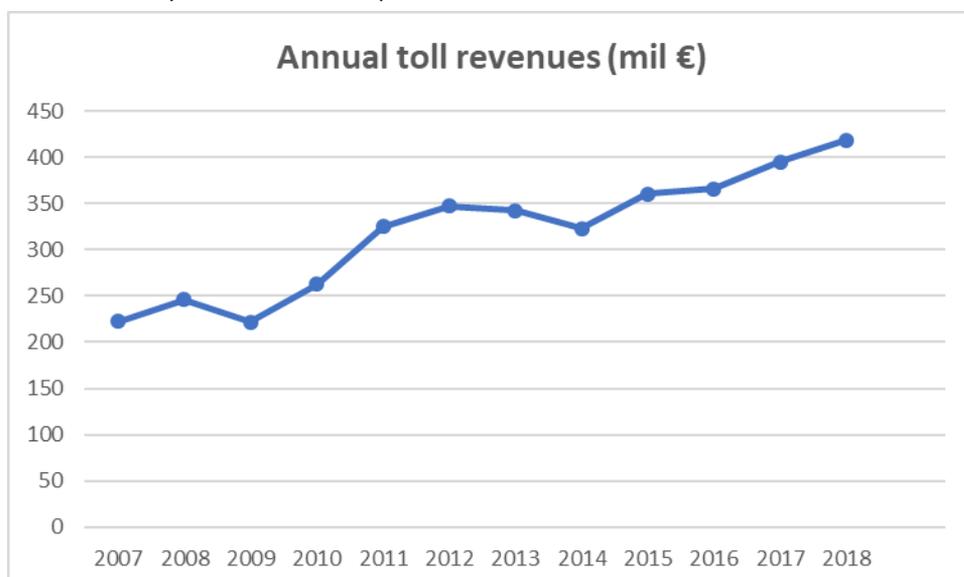
The year 2018 was the most successful year for the Czech electronic tolling system since the beginning of operation in sight of toll revenues.

More than 419 mil € paid vehicles over 3,5 tons past year. That means increase of electronic toll revenues around 24 mil €.

Annual toll revenues (million EUR)

Year - Revenues

2007 – 222,61
 2008 – 245,77
 2009 – 221,73
 2010 – 262,98
 2011 – 325,04
 2012 – 347,20
 2013 – 342,20
 2014 – 322,78
 2015 – 360,45
 2016 – 366,21
 2017 – 395,13
 2018 – 419,00



The annual toll revenues in year 2018 increased by 6 % in comparison to year 2017.

This annual increase was caused by higher traffic – especially as a result of the economic boom in our country and in neighbouring countries in Europe.

Safety

	Definition and method of calculation	In number for one billion kilometres travelled in 2018	Variation in % in 2017/2018
Personal injury rate	Number of persons injured in road accidents on members network	N/A	2018: 929 2017: 931 -0.21482%
Fatal accident rate	Number of accidents with fatalities (deaths) on motorways	N/A	2018: 31 2017: 24 29.167%
Rate of dead	Number of deaths on motorways	N/A	2018: 33 2017: 25 32%

In year 2018 we can see increase of number of number of accidents with fatalities on motorways and number of dead people. But the number of injured people in road accidents was lower.

Long-term forecasts and tendencies

As we can see in next two pictures, the main tendency is to develop a complete network of motorways which will connect the main big cities and to allow the transit of vehicles through Czech Republic to other countries of European Union.

The high-speed railway network (forecast for the next year you can see in the second map) is tracing the main motorway network to disburden the motorway transport.

— Dálnice v provozu - výhledový stav



Dálniční síť

Výhledový stav



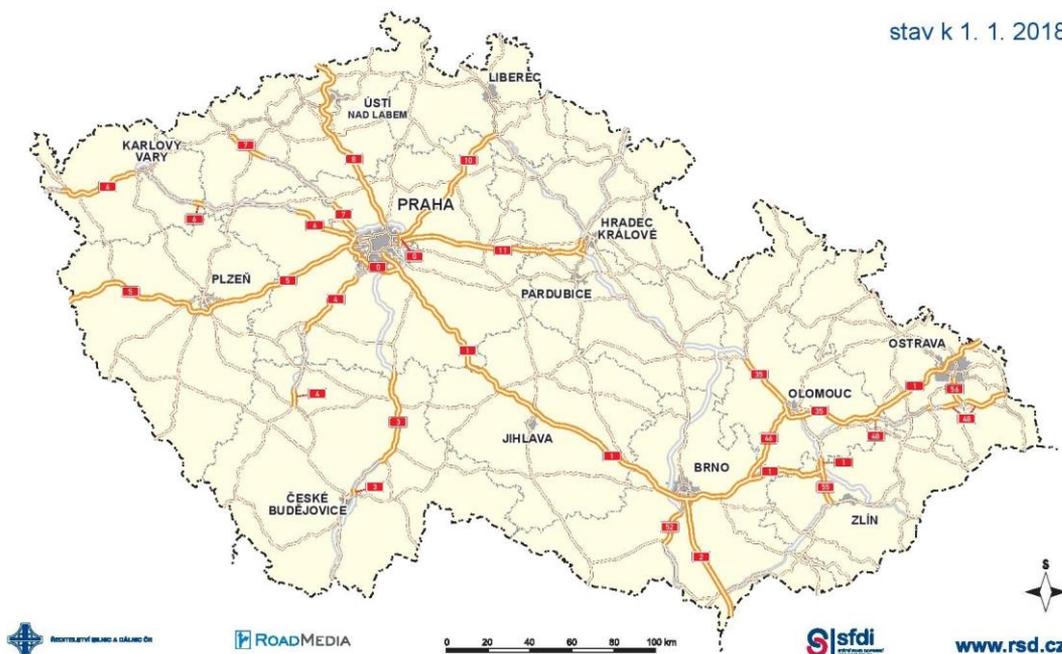
Long-term forecast development of the tolled network in Czech Republic

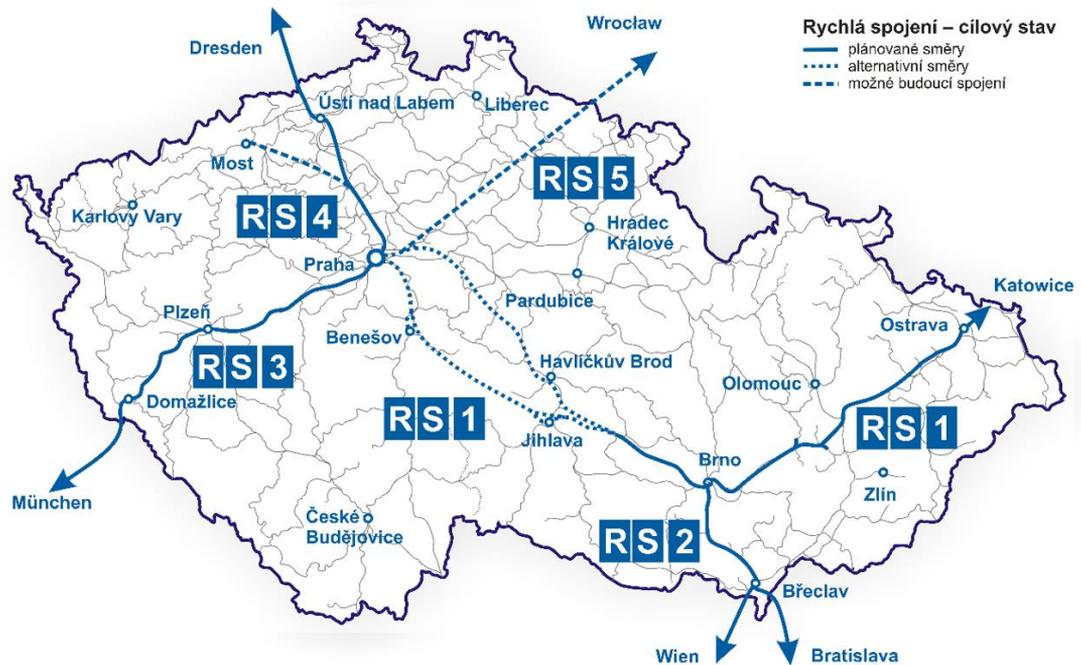
— Motorway in operation
— Motorway - forecast



Dálniční síť

stav k 1. 1. 2018





Long-Term forecast for the development of high-speed railways in Czech Republic

Significant actions already started (and/or to be achieved in 2018) and foreseen for 2019.

In 2018 Ministry of Transport decided about a new operator of the tolling system, company Skytoll, from the year 2020. After 13 years of trouble-free toll system operation KTS at the same time terminates its service.

In 2018 KTS within wide consortium of partners completed project RODOS- Dynamic Mobile Model of the Czech republic (DMM), serving as a platform supporting ITS projects.

Directorate of highways and roads (RSD) launched several RFPs for implementation and operation of weigh-in-motion technology on Czech highways in 2018. Up to now they issued 7 RFPs, Kapsch has won 3 of them. Projects consist of delivery and instalation of gantries, roadway sensors, WIM technology itself and civil works related to renovation of roadway surface. In 2019 the project will continue with other 7 tenders for the rest of highway network.

KTS will participate at C-road project of co-operative systems infrastructure on highways in Czech republic.

In 2018 Ministry of transport announced an intention of electronic vignettes deployment. Launch of the service is yet planned on 1 January 2021, but the preparation of the projects has already started.

MAIN ASECAP KEY FIGURES

Country: Czech republic	Indicate below how you calculate each figure provided in the “2018” column	2018
Network length (Km).....		1 472,3 km
2 x 2 lanes (Km).....		N/A
2 x 3 lanes (Km).....		N/A
2 x 4 lanes (Km).....		
Number of km in construction	motorways	22,4 km
Forecasts of opening motorways section	motorways	2
Annual toll revenues* (in millions of Euros)	vehicles over 3,5 t	419
VAT % (Indicate the VAT % percentage to the toll revenues)	Electronic Toll is a type of tax	0%
Permanent staff		145
Average daily traffic (light vehicles)		N/A
Average daily traffic (heavy vehicles)		5 188
Average daily traffic (total = light + heavy vehicles)		5 188
Total number of accidents	motorways (light + heavy vehicles)	4 053
Number of persons unjured	motorways (light + heavy vehicles)	929
Number of dead	motorways (light + heavy vehicles)	33
Fatality rate	= number of dead/million km travelled * 100	1,18
Kilometres travelled (10 ⁶ x km)	distance travelled (vehicles over 3,5t)	2 788

	Indicate below how you calculate each figure provided in the “2018” column	2018
Number of toll transactions (Total)		N/A
Number of toll transactions (light vehicles):		N/A
Number of toll transactions (heavy vehicles):	vehicles over 3,5 t	484 719 643
Number of toll stations		271
Number of toll lanes		N/A
Number of ETC lanes		N/A
Number of ETC subscribers (Total):		476 861
Number of ETC subscribers (light vehicles):		0
Number of ETC subscribers (heavy vehicles):		476 861
Number of service areas (equipped with petrol stations)		115
Number of rest areas		134
Number of restaurants		113
Number of hotels		12

*please provide the figure VAT and other taxes excluded.