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## **Has the EETS any Market Potential?**

**Robert Yen<sup>1\*</sup>, Erik Schaarschmidt<sup>2</sup>, Cornelia van Driel<sup>2</sup>**

1. Rapp Trans (DE) AG, Germany, [robert.yen@rapp-trans.de](mailto:robert.yen@rapp-trans.de)

2. Rapp Trans (DE) AG, Germany

### **Abstract**

Despite many efforts by many stakeholders, the European Electronic Toll Service (EETS) is still not a reality in the everyday life of road users. Therefore the following question arises: Will the EETS ever become reality and is it worthwhile to register as an EETS Provider? This paper presents Rapp's view on the market potential of the EETS. It describes several considerations regarding the business model for an EETS Provider with respect to remuneration and costs and presents estimates of the EETS market in Germany and EU-wide.

### **Keywords:**

EETS, market potential, EETS Provider remuneration

### **Still no EETS**

With Directive 2004/52/EC, the European Union provided for the creation of a European Electronic Toll Service (EETS), a service which allows seamless payment of electronic road tolls across the EU with a single on-board unit (OBU), under one contract and a single invoice. The EETS was to be offered for heavy commercial vehicles in 2012 and for all other vehicle classes in 2014. Despite many efforts by many stakeholders, the EETS is still not a reality in the everyday life of road users. Therefore the following question arises: Will the EETS ever become reality and is it worthwhile to register as an EETS Provider? Various legal, economic and technical issues, which influence the current tolling world through the introduction of the EETS were analysed by Rapp [1]. This paper presents Rapp's view on the market potential of the EETS for heavy commercial vehicles. It focuses on the following two main topics: (1) remuneration and business models for EETS Providers and (2)

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estimations of the EETS market in Europe. First the regulatory framework for these topics is shortly presented.

### **New regulatory framework**

The development of the market potential of the EETS is strongly influenced by the EETS legislation, i.e. Directive 2004/52/EC and Decision 2009/750/EC. A recurring point of discussion is that the current regulation fails to define a business context which makes the EETS affordable to service providers [see e.g. 2].

In 2015, the European Commission launched an ex-post evaluation to assess the implementation and effects of the EETS in all 28 Member States in the period 2004-2014 [3]. The results of the ex-post evaluation show that the objectives of the existing legislation have been too narrow or too far-reaching at certain points. It is expected that different problem areas will be addressed in a new legal framework.

The preparatory process for the revision of the EETS legislation was started in 2016; a revision that has been called for many years by many different stakeholders. In October 2016, the Commission indicated its current state of reflection on a possible review of the EETS legislation [4]. To reduce the cost of market entry for EETS Providers, ensure fairness and non-discrimination and create a balanced set of rights and obligations for all actors, the following solutions are (amongst others) now being considered:

- Streamline registration and accreditation procedures across EETS domains
- Reduce technical disparities between EETS domains
- Clarification of the rights of EETS Providers, in particular the rights to remuneration
- Preventing cross-subsidisation of toll charger, toll service provider and EETS Provider activities
- Reflect on the role and responsibilities of conciliation bodies
- Make obligations of EETS Providers realistic (remove or amend the requirement of full-EU coverage in 24 months?)
- Extend the principle of loyal co-operation between the toll charger and EETS Provider

All envisaged policies will be tested as part of a Commission Impact Assessment. According to the 2017 Commission Work Programme, the EETS revision is planned to take place in Q2/2017<sup>1</sup>. Our expectation of the upcoming regulatory changes is that in any case the European coverage (incl. deadline) will be deleted and rather a regional development will be pursued. We also expect the new legislation to focus on EETS for heavy vehicles and that there will be clearer rules on the compensation for EETS Providers to strengthen their business case. These assumptions are the starting

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<sup>1</sup> [https://ec.europa.eu/info/sites/info/files/cwp\\_2017\\_annex\\_i\\_en.pdf](https://ec.europa.eu/info/sites/info/files/cwp_2017_annex_i_en.pdf) (consulted: 22 March 2017)

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point for the rest of this paper.

### **Remuneration of an EETS Provider – Status Quo**

The topic of remuneration of a service provider is not specific to EETS. However, having a viable business case for EETS Providers – with remuneration being an important part of it – is seen as a key factor for the success of the EETS.

Detailed specifications on the remuneration of an EETS Provider are not clearly defined in the current EETS legislation. Preamble 7 of the Decision states that “The EETS is based on the principles of transparency and efficient and fair pricing”. Furthermore, according to Annex I of the Decision, an EETS domain statement must contain a section on procedural conditions, which shall be non-discriminatory and include at least commercial conditions, which shall be agreed upon by bilateral negotiations between the Toll Charger and the EETS Provider including service level requirements. In Chapter 2.2.2.2 of the (non-binding) EETS Application Guide, it is emphasized that each Toll Charger should define fair remuneration rules in view of the services exchanged between the EETS Providers and the Toll Charger.

Today’s tolling market in Europe consists of a large number of electronic toll systems, which differ in the technical and procedural design of the toll collection. This is reflected in the current discussion on possible remuneration schemes for EETS Providers. For example, in some EETS domain statements it is defined that the amount of remuneration depends on the number of transactions and the fulfillment of service quality requirements (e.g. EasyGo, Switzerland). In Portugal, the remuneration of an EETS Provider includes the deduction of a commission from the payment to the Toll Charger. At the moment, there is no legal claim in Germany for remuneration for EETS Providers, but the Toll Charger (i.e. Federal Ministry of Transport and Digital Infrastructure BMVI) is willing to discuss the issue based on the effects of savings on the national toll system.

The issue of remuneration was also studied within the REETS TEN project (2013-2015), which aimed to provide EETS-compliant services in a cross-border regional area formed by the following countries: Austria, Denmark, France, Germany, Italy, Poland, Spain and Switzerland [5]. Currently, almost all national contracts include a clause on remuneration of Service Providers, which is expressed as either a percentage from the toll amounts, a fixed fee or a combination of both. It is therefore reasonable, that EETS Providers expect to be remunerated by the Toll Charger too.

### *Recommendations*

Based on common elements in the analysed current national toll systems, various recommendations were provided that cover the following issues:

1. Who should pay the remuneration?
2. For what services rendered?

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3. How is remuneration defined? What do you measure?
4. When and how is the remuneration paid in practice?
5. Should remuneration be considered a contractual issue?

Regarding issue 3, for EETS, the principle of simplicity is recommended: in order to avoid the implementation of complex remuneration systems, the preferred solution is based on a fixed percentage of revenue.

However, Rapp believes that the remuneration scheme should reasonably depend on scaling factors (e.g. number of OBUs, number of transactions, possibly also size and complexity of the tolling network). Remuneration only on the basis of the toll volume is hardly effective, since the technical costs do not scale with this volume. In addition, a corresponding initial technical expenditure is necessary. This means that even in extreme cases with only one OBU and one transaction per month, corresponding OBU management processes and central data center services must be maintained. A better alternative might be to consider a remuneration scheme based on a percentage of the toll revenues and a fixed fee for the provision of the OBUs.

### **Approaches to a business model**

For most EETS stakeholders there is no question about it, that without a viable and realistic business model, the EETS will not succeed. Hence, one of the keys to the creation of an EETS market is seen in an appropriate regulation of the remuneration of EETS Providers. The starting point for the non-discriminatory contractual conditions should be the already existing conditions of the national toll operators in order to be able to compare the services rendered and risks assumed and to integrate them into a consistent remuneration system.

EY has examined four remuneration models according to different incentive and risk aspects for the EETS market in Germany [6]. The basis for the consideration is a general remuneration function which has three components: (1) fixed remuneration based on recognized costs, (2) number of active OBUs multiplied by an incentive factor, and (3) paid out toll volume multiplied by a further incentive factor. The different design of the components controls the allocation of risk from the Toll Charger to the EETS Provider.

In a study by BearingPoint, the most promising business model is seen in a fully integrated toll service provider that covers a broad range of services and has close contact to both customers and EETS market stakeholders [7]. Although the profitability of this model for the service providers is presumed, concrete analysis is needed.

Rapp presented in their study a series of basic assumptions concerning the business model of an EETS Provider based on possible cost and revenue streams and their qualitative composition. A summary can

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be found below, all details can be found in our study [1].

### *Revenues*

Overall, Rapp believes that the remuneration scheme should take into account the services which are rendered by either party involved in the EETS to the other. Important in this respect is that (new) business models for national toll operators take into account the existence of EETS Providers.

Remuneration from the Toll Charger to the EETS Provider may depend on the following services of an EETS Provider to the Toll Charger:

- Technical basis for the toll collection, e.g. OBU operation, operation of central system, central interfaces, enforcement support, suitability for use testing, conclusion of contract
- Customer and payment management, e.g. payment transfer, financial guarantees, conclusion of contracts

Note that such services for a satellite-based systems have a higher savings potential for the Toll Charger and hence a higher remuneration potential for the EETS Provider than microwave-based systems.

Also the EETS User will be an essential source of financing for the EETS Provider. Already in today's toll systems, users pay service fees in various forms, e.g. fixed OBU fee per month, one-time OBU fee on purchase/receipt, OBU deposit, monthly service fee depending on toll volume. For the EETS, it is necessary to respect the proportionality to today's fees, but also to examine the existing national alternatives. For example, for medium and large international hauliers, the uniform configuration of their fleet with a fee-based EETS-OBUs can bring significant process cost advantages compared to a free national OBU. Moreover, in addition to toll collection services, the EETS Provider can offer his customers additional services, such as fleet and vehicle management, route planning, parking reservation, VAT settlement, etc. for which he can charge an additional fee.

From strategic motivation it may be that the occurrence as an EETS Provider itself is not commercially viable, but that the EETS could nevertheless be offered to support other business areas, e.g. preventing a migration of customers to the competition. Other business units benefiting from this could then cross-subsidize the EETS.

### *Costs*

Annex I of the EETS Decision states that an EETS domain statement shall contain (at least) the fixed charges imposed on EETS Providers based on the costs for the Toll Charger to provide, operate and maintain an EETS compliant system in its toll domain when such costs are not included in the toll. Although formulated very generally, these charges mainly relate to: (1) costs of the Toll Charger to make his toll system fundamentally EETS-capable, (2) costs of the Toll Charger for the acceptance of an EETS Provider and related activities. However, the Commission has stated that the implementation

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costs of point 1 should be reasonably included in the transport infrastructure costs and not be transferred to the EETS Providers.

Other major cost blocks for an EETS Provider are the costs for the processes on toll collection and enforcement support. For example, the costs for the operation of the technical solution are scaled by the parameters, such as the number of OBUs, customers, transactions and the number, complexity and technology of included toll areas.

Due to the complexity of the tasks of an EETS Provider, it is assumed that different stakeholders will bundle their competences in order to be able to carry out the complex tasks of an EETS Provider, to realise synergy potentials and to achieve savings. See also Rapp’s paper “The Competitive Environment of the EETS” (TP0790) prepared for this ITS European Congress.

**Demand for the EETS**

The electronic toll market is very dynamic: new tolling schemes are implemented, existing toll networks are expanded, operator contracts are expiring, new vehicle classes are defined, etc. Hence, through EETS, synergy effects could be created in the introduction of new and the extension of existing electronic toll systems with benefits for all stakeholders (see Table 1).

**Table 1 – Expected benefits of the EETS for the main stakeholders**

EETS Provider	Toll Charger	EETS User
Increasing the attractiveness of the market for potential EETS Providers, e.g. through the recurring process flows and streamlined system architectures	Medium- and long-term relief for national toll operators, in particular with respect to the administrative/technical effort	Choice between national toll operators or international EETS Providers Reduction of administrative costs in transit traffic Possibly increased service or value-added services

From the point of view of the European Commission, there is no doubt that the demand for the EETS exists [8]:

- Currently 25% of road freight transport is cross-border, and the figure is expected to rise to 30% by 2030.
- The ongoing development or extension of road charging schemes in the EU will create new market opportunities for EETS Providers. Also the White Paper on the Single European Transport Area sets forth a number of actions which will further promote the deployment of road use charging.
- In addition, national and European associations have repeatedly expressed their strong demand for a pan-European interoperable electronic toll system, clearly a call for an EETS.

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The ongoing growing number of electronic tolling subscribers – currently over 30 million in ASECAP member countries [9] – shows that the introduction of an EETS is a relevant and attractive option.

*But who are “the EETS Users”?*

It is assumed that potential EETS Users can particularly be found in cross-border road transport in at least two countries with an electronic truck toll system. For example, the most important transit countries (with most transit journeys according to Eurostat figures of 2015) are: AT, BE, CZ, DE, FR, HU, NL and SK. All of them – except NL – have an electronic truck toll system. For some of these countries, an assessment of the respective EETS market is conducted below.

Furthermore, it is assumed that the more tolling countries are being passed through, the higher the interest in EETS will be. Illustrations of windscreens fully glued with different OBUs are well-known. However, unfortunately there is a lack of data to get a better picture of the EETS market. For example, data on the number of vehicles and their mileage that actually travel in several toll countries, are equipped with several OBUs and would be helped with an EETS-OBUs, are to a large extent missing.

Other indications for the number of potential EETS Users are the current users of interoperable tolling services (e.g. TOLL2GO) and OBUs that can be used for paying tolls in several countries, for example:

- Viaxxès Sat (Axxès): AT, FR, ES, PT, BE (tunnel + network) and DE (tunnel)
- Telepass EU: IT, FR, ES, PT, BE (tunnel) and PL (A4, Krakow-Katowice)
- DKV Box Select: FR, ES, PT and tunnel in DE + BE
- MST Box: BE, FR, ES and PT

### **Estimates of the EETS market in Europe**

There are hardly any public estimates of the EETS market potential in Europe. A study by EY states that – according to the existing legislation – the service of an EETS Provider should cover all existing electronic toll systems in the EU, which generate ca. €10.8 billion per year (trucks only) [6]. Under various assumptions, an EETS Provider on the “German” EETS market could expect an average remuneration of €88-96 million per year.

BearingPoint points to figures from ASECAP in its study and shows that in 2014, the toll market in Europe generated approximately €27.5 billion (trucks and cars) and thus represents a tremendous potential for EETS [7]. Without mentioning the background of their assumptions, today’s EETS market is estimated to be around €8.3 billion. The EETS revenues in 2030 are estimated at €12.3 billion euros.

Although being only a part of the total EETS market volume, a very good basis for an estimation of

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the market volume would be the data from current fuel card issuers, i.e. data on all tolls paid through their payment means. For example, AGES is assumed to have a very valid picture of the EETS market volume in Germany. Unfortunately, these data are not publicly available.

Our study is based solely on publicly available data, which come from different sources and are sometimes contradictory. On the basis of Rapp's almost 20 years of experience, these data were evaluated and supplemented by our own assessments. As a result, the assessment of the EETS market potential is ultimately subject to a wider range of fluctuations.

For a plausibility check of the above-mentioned estimates and an initial assessment of the market potential of EETS for trucks, particularly the annual truck tolls from EU countries with an electronic toll system form important basic information. Unfortunately, there are hardly any differentiated data in public sources. In any case, the estimates of EY (€88-96 million) and BearingPoint (€8.3 billion, about one third of the total market) appear relatively high.

Following a multi-level approach, we first assessed the market potential of EETS in Germany, second for the neighbouring countries AT, BE and CH, and then EU-wide including other important European toll countries. A summary of the assessment for Germany and the EU-wide assessment can be found below, all details can be found in our study [1].

#### *EETS market potential in Germany*

With its central location, Germany is one of the most important transit countries in Europe. Six of the nine corridors of the core network of the trans-European network (TEN-V) lead through Germany. Based on its relatively large toll road network and high toll revenues, Germany is one of the major tolling countries in Europe.

Using figures of the completed year 2015 from Toll Collect, BAG and BMVI, the number of EETS-relevant foreign/non-resident Heavy Goods Vehicles (HGV) was estimated at 250,000 (ca. 30% of all foreign HGV) and the number of EETS-relevant domestic/resident HGV was estimated at 100,000 (ca. 15% of all domestic HGV). With an average annual performance of 14,760 veh-km (foreign HGV) resp. 28,301 veh-km (domestic HGV) and an average toll tariff of 14 ct/km, the market volume of EETS in Germany would be about €913 million per year (see Table 2). Assuming that all EETS-relevant HGV are equipped with a corresponding OBU, this would amount to toll revenues of ca. €2,600 per OBU per year. Under appropriate assumptions, the EETS market volume in Germany could expand up to €2.5 billion by 2030.

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**Table 2 – Estimation of annual EETS market potential in Germany**

EETS market potential in Germany (based on 2015 figures)		
Foreign HGV:	250,000*14,760*14	≈ €516.6 million
Domestic HGV:	100,000*28,301*14	≈ €396.2 million
<b>Annual total</b>		<b>≈ €912.8 million</b>

*EU-wide EETS market potential*

In view of the most important transit countries in Europe, which have an electronic truck toll system, and the indicated interest in an EETS-OBU to cover certain countries<sup>2</sup>, we estimated the overall EETS market potential based on our assessment of the following countries (see Table 3).

**Table 3 – Estimation of annual EETS market potential in Europe (speculative elements are marked)**

Country		Toll revenues (per year in €)	Source	EETS-relevant toll revenues (per year in €)	Share of EETS
AT	Austria	1,252 million	ASFINAG	350 million	28%
BE	Belgium	650 million	estimate	230 million	35%
CH	Switzerland	1,457 million	EFD	77 million	5%
CZ	Czech Republic	322 million	Ptolemus	68 million	21%
DE	Germany	4,372 million	Toll Collect	913 million	21%
ES	Spain	700 million	SEOPAN	~70 million	10%
FR	France	2,900 million	ASFA	609 million	21%
HU	Hungary	-	-	-	-
IT	Italy	2,220 million	AISCAT	222 million	10%
PL	Poland	390 million	ViaToll	82 million	21%
SL	Slovenia	118 million	DARS	25 million	21%
SK	Slovakia	183 million	Skytoll	64 million	35%
<b>Total</b>		<b>14,564 million</b>		<b>2,710 million</b>	<b>19%</b>

On the basis of the findings for Germany, Austria, Belgium and Switzerland as well as information on the toll revenues of other toll areas, rough estimates were made of the current EETS market volume. For Spain, France and Italy, only very speculative estimates could be made, since there is no official information on the toll revenues for heavy vehicles in these countries. The resulting tolling income of the above countries amounts up to €14.6 billion with an estimated EETS-share of €2.7 billion.

However, it is important to take into account the duplications in the estimates. For example, there is an overlap in the EETS market potential of “foreign” users in Germany with the EETS market potential of “domestic” users in AT, CH, etc. Assuming a doubling of revenues of at least 15%, this would result in an estimated EETS market volume of ca. €2.3 billion. Since the data situation is extremely bad,

<sup>2</sup> For example indicated in the REETS TEN project and the BearingPoint survey

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except for Germany and Austria, a larger fluctuation range is assumed: today an EETS market volume of €1.5 to 3.0 billion is expected for Europe.

### **Outlook**

Despite considerable efforts, it seems that a viable business model for an EETS Provider could still not be developed. Especially the question of a fair remuneration scheme remains relevant in today's discussions. Hopefully the revision of the EETS legislation will bring these issues forward. It is also expected that potential EETS Providers will bundle their competences in order to be more successful in the long term.

The dynamics of the electronic toll market (new tolling schemes are implemented, existing toll networks are expanded, operator contracts are expiring, new vehicle classes are defined, etc.) will repeatedly create new market opportunities for EETS Providers in the future. Especially expansions of toll road networks and tonnage reductions can have a significant impact on the toll revenues, and thus the EETS market. For example, the planned toll expansions on all federal roads in Germany in 2018 and the general toll discussions in Austria should be considered. Extensions are also possible in Belgium, where a large part of the toll road network is currently covered by tariff 0.

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