

**Independent Regulators' Group – Rail**  
**IRG–Rail**  
**Subgroup Charges for Service Facilities**

**An overview of**  
**charges for storage sidings in the IRG-Rail member states**

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Introductory remarks

This overview document covers the following countries who are members of IRG-Rail: **Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.** The IRG-Rail working subgroup “Charges for service facilities” created this document to provide an overview of charging practices for storage. This paper find similarities and differences in the specific charging systems by comparison. Further information and work is needed in order to present common practices for charging for storage sidings.

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## I. Introduction

### a. Main purpose of the paper

Storage sidings are important service facilities. They are essential for the use train path as trains need to be stored or parked between two assignments, when they are not being used.

Due to increasing competition on railway markets as well as due to higher demand for train paths and reconversion of existing storage sidings, shortages in storage infrastructure has become more frequent. The awareness of the necessity for a modern charging system for storage sidings is increasing among market participants and therefore, there is a high interest in comparing such systems across Europe. A modern system should be able to provide sufficient incentives to achieve efficient use of existing capacities. Furthermore, according to legislation, operators of storage sidings should recover costs for providing access to the service facility and services supplied in this service facility. In this paper, IRG-Rail compares existing storage charging systems among its members to point out differences/similarities in order to identify common practices. This paper focuses on the main service provider of storage sidings in each country.

The differences in charging for storage sidings across European railway markets can be highlighted by two charging systems that stand apart: on the one hand, storage sidings in the UK are mostly provided by private service facility operators (SFOs) which are not related to the infrastructure manager (IM)<sup>1</sup>. As there is an established market for storage sidings, charges for storage (mainly provided in light maintenance depots) tend to be determined by the market. Since there have not been any complaints from railway undertakings (RU) so far, this market seems to offer appropriate prices for suppliers and RUs.

On the other hand, in Spain in 2017, an extensive charging system for storage sidings was introduced by the IM which provides the majority of storage sidings. The reason for the introduction was the risk of a lack of capacity caused by the inefficient use of existing storage capacities together with the establishment of a new charging system that introduces the necessity to recover costs for storage sidings. By establishing an incentive-based charging system, the allocation of these infrastructures capacity should be improved.

To gather information on the charging schemes in different IRG-Rail member countries, a questionnaire was designed and sent out to all members. Altogether, answers from 25 members were collected. They are summarized within this paper. The majority of the respondents have referred to the situation in the year 2018. However, some of the answers reflect different years which seem to be more appropriate for the specific countries.

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<sup>1</sup> The IM also owns some storage sidings in connection with its infrastructure haulage operations, however these are specialist sites that would not be generally available for storage of other types of train. In some circumstances, network sidings may be used for stabling or storage of vehicles where this can be accommodated. Application for access is in accordance with the process for general access to infrastructure .

**b. Structure of the paper**

The second chapter deals with basic information and the legal background. Chapter three covers the question whether parking or storage of vehicles is included in the Minimum Access Package (MAP) and depicts the distinction between short- and long-stay parking as well as other services that might be provided within a service facility. The fourth and the fifth chapter describe the different charging principles and units used across IRG-member states, whereas chapter six is about the calculation of charges and the costs covered. Chapter seven briefly outlines the role of the regulatory body while chapter eight concludes.

**II. Basic information and legal background**

**a. Legal background**

Annex II of Directive 2012/34/EU lists storage sidings as a service facility. A general definition of “storage siding” can be found in Article 3 (29) of the Directive: “‘storage siding’ means sidings specifically dedicated to temporary parking of railway vehicles between two assignments.”<sup>2</sup>

This regulation was transposed into national law by all member states. However, further regulation can be found in the network statement of the IM or the service conditions of the SFO. One example is Portugal, where parking must take place off main traffic lines in stations. Only in exceptional cases, parking can be done there. In the UK, access contracts to light maintenance depots which are the service facilities where storage sidings are provided must be pre-approved by the regulatory body, thus ensuring that access conditions are non-discriminatory. In Sweden, all track use, including parking, is included in the annual timetable of the IM.

Since the Directive does not give any definition of “storage” or “parking,” both terms are usually used synonymously in this paper.<sup>3</sup>

The second regulation of the Directive is on reasonable profit, as it is defined in Article 3(17) of the Directive. This will be elaborated in Chapter five.

**b. Basic information**

Storage sidings are listed as service facility in Annex II of Directive 2012/34/EU. This service can be offered on a competitive basis as the example in the UK shows. Although the importance of this service facility is commonly acknowledged, storage is not charged in every country. According to the information received from the members, SFOs have a charging system for storage sidings in 19 of the 25 participating countries (see Table 1). Conversely, only in six countries the RUs do not have to pay fees for using storage facilities.

In most countries, storage is provided by one main service facility operator (SFO). This SFO is usually the main IM, but in some cases the incumbent RU. Additional storage may be provided locally by other SFOs, e.g. near industrial sites, terminals and ports.

|  |         |            |  |
|--|---------|------------|--|
|  | Charges | No Charges |  |
|--|---------|------------|--|

<sup>2</sup> The Directive does not specify what means “between two assignments “ which leaves room for interpretation

<sup>3</sup> There may be distinctions on the national level, like in Sweden for example, where there is a distinction between parking and storage in terms of technical specification of the tracks. In order to be approved for parking, tracks need to fulfil certain safety requirements. However, in terms of the service provided, there is no distinction between storage or parking.

|                       |   |   |
|-----------------------|---|---|
| Austria               | X |   |
| Belgium <sup>4</sup>  | X |   |
| Bulgaria              | X |   |
| Croatia               | X |   |
| Czech Republic        |   | X |
| Denmark               |   | X |
| Finland               |   | X |
| France                | X |   |
| Germany               | X |   |
| Greece                |   | X |
| Hungary               | X |   |
| Italy                 | X |   |
| Lithuania             | X |   |
| Luxembourg            | X |   |
| Netherlands           | X |   |
| Norway                | X |   |
| Poland                | X |   |
| Portugal              | X |   |
| Romania               | X |   |
| Slovenia <sup>5</sup> | X |   |
| Slovakia <sup>6</sup> |   | X |
| Spain                 | X |   |
| Sweden                | X |   |
| Switzerland           | X |   |
| UK                    | X |   |

Table 1: Existence of charges for storage sidings in IRG-Rail member states.

Ten of the 20 member states where a charging system for storage sidings exists introduced it before 2010. Since then, charges for storage sidings were introduced in six countries (Croatia, Italy, Norway, Poland, Spain and Sweden). Reasons for the introduction were either a lack of capacity (Netherlands), uncontrolled despatch of freight wagons at stations (Croatia) or a redesign of the entire charging system for railways (Italy, Norway, Poland and Spain). The Netherlands<sup>7</sup> and Slovakia are planning to establish a new charging scheme for storage in the upcoming years.

As IMs are often the SFO, information on services including charges is usually available through the IMs' network statements. Hungary<sup>8</sup> is an exception here, where they are published by the independent capacity allocation body. In Italy the incumbent RU is providing these services as SFO and also publishes the charges. In Portugal on the contrary, the incumbent RU is not responsible for publishing charges even though it owns/ operates some service facilities. Therefore, the charges are not published in the network statement or on the website of the IM in every country, but also on the website of the SFOs or the incumbent RU.

<sup>4</sup> In Belgium, the IM charges for the capacity offered in the facilities they own.

<sup>5</sup> Charges for storage sidings in the Port of Koper only.

<sup>6</sup> No charges in 2018, but introduction of charges in 2019.

<sup>7</sup> Until 2019 the charges for storage are a part of the MAP. Afterwards they will be dealt with as service facility.

<sup>8</sup> If the storage is provided by an SFO, the charges are published in the SF description published by the SFO and linked in the Network Statement

**III. Service facility vs. MAP, short-time parking and other services**

This section covers storage of vehicles where included in the Minimum Access Package (MAP) and depicts the distinction between short- and long-stay parking as well as other services that might be provided within a service facility.

**a. Service facility versus MAP**

In only two countries, the Netherlands and Norway, storage is fully included in the MAP. Until the end of 2019, in the Netherlands storage has been a part of the MAP and the charges have been based on direct costs. From 2020 on, storage sidings will no longer be part of the MAP. They will be charged separately as a service facility. In some countries, storage is partly included in the MAP: For example in Poland up to two hours of storage are included in the MAP and hence are free of charge.

**b. Short-stay vs. long-stay parking**

In the majority of member states, there is no distinction between long-stay and short-stay parking<sup>9</sup>. However, in some member states, there is a differentiation which usually corresponds to different charges or amounts of time when storage is free. One example is Austria, where the ad-hoc storage (short-stay storage<sup>10</sup>) of rolling stock is free for up to 24 hours, whereas planned storage is free for only up to six hours. Interestingly, for a longer period of time, the charges for planned storage are lower than for ad-hoc storage.

In some countries, storage of trains is free up to a specific amount of time. The following figure gives an overview of the free storage time in the different member countries:

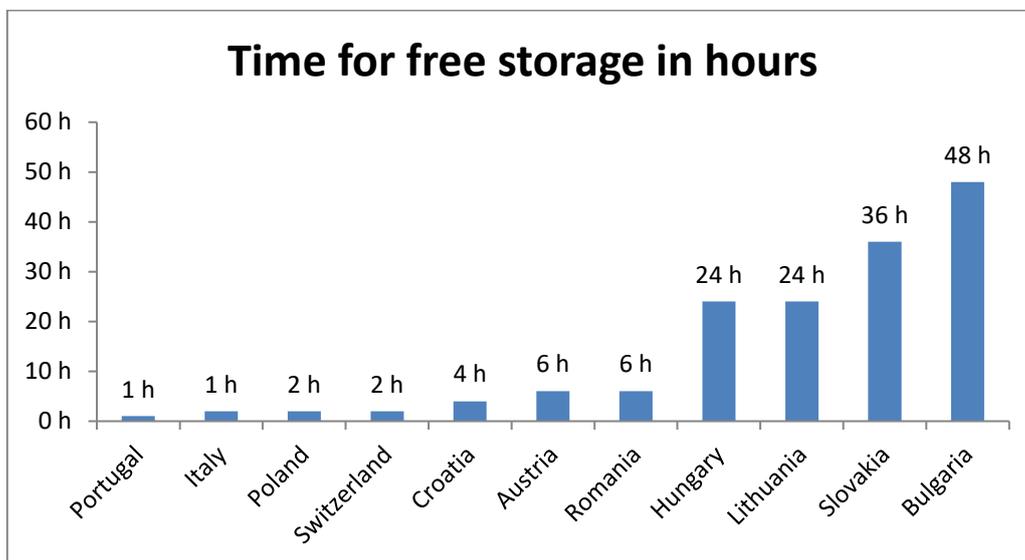


Figure 1: Amount of time up to which storage is free in member countries.

In eleven countries, there is a special amount of time for free parking. It varies between one hour in Italy and Portugal for sidings in stations and up to 48 hours in Bulgaria. In Poland and

<sup>9</sup> There is also no legal definition of long-stay and short-stay parking in the Directive 2012/34

<sup>10</sup> Any storage, that is shorter than 14 day within in the same month is considered an ad-hoc storage.

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Switzerland, the parking is free for two hours, in Croatia<sup>11</sup> for at least four hours for passenger trains and up to 24 hours for freight trains. In Austria<sup>12</sup> and Romania up to six hours, whereas in Hungary and Lithuania the first 24 hours and in Slovakia storage for up to 36 hours are free of charge.

In three countries, there is a minimum amount of time where storage is charged: In France for at least 24 hours, in Hungary twelve hours and in Italy up to seven days. In Germany, concerning the IM (DB Netz AG), the charge is time related (per hour), but there is a minimum charge of € 50 per usage of the storage siding.<sup>13</sup> In Spain, storage in passenger stations sidings is charged in five-minute-intervals and the minimum charge for storage outside of stations is four hours. In other countries, a minimum amount of time can be derived from the fact that it is only charged per hour or per day.

In Spain and France, there is a differentiation regarding whether the storage is done within or outside a passenger station. In France, there is the distinction between storage in sidings, sidings in railway stations with platforms for ascent or descent of passengers and sidings in freight terminals with access to platforms. This differentiation leads to different storage charges - depending on where the train is stored. In Spain, the charging system distinguishes between storage inside passenger stations and elsewhere. Outside of passenger stations, there is a different charging scheme for storage, which reflects the equipment in the siding facility and the price per day is slightly decreasing over time of use. If additional services (like for example cleaning or loading of the train) are required, an additional charge is applied.

**c. Services provided within storage sidings**

Within storage sidings, other services may also be offered such as loading/unloading of goods, train preparation and shunting. While these services may be offered within a storage siding, they are usually considered as a separate service and not included in the charge for storage. (These separate services may even be provided by a different SFO). Therefore, these services will not be discussed in this paper.”Table three gives a general overview of supplementary services offered across storage sidings.

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<sup>11</sup> Four hours for passenger trains and 24 hours for freight trains

<sup>12</sup> Planned (regular) storage. For ad-hoc storage the first 24 hours are free.

<sup>13</sup> The national regulation law doesn't specify any rule for SFO concerning a minimum amount of time where storage is charged. Thus, the SFO are free in determining their rules as long as they are nondiscriminatory, transparent and reasonable. For the whole questionnaire, we concentrated on the IM (DB Netz AG) as the biggest player in the market. But due to the high number of SFOs and the existing heterogeneity between them we didn't focus on them.

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|                        | Train preparation | Pre-heating     | Washing | Water supply |
|------------------------|-------------------|-----------------|---------|--------------|
| Austria                | X                 | X               |         | X            |
| Belgium                |                   |                 |         |              |
| Bulgaria <sup>14</sup> |                   |                 |         |              |
| Denmark                |                   | X <sup>15</sup> |         |              |
| Finland <sup>16</sup>  |                   | X <sup>17</sup> |         |              |
| France                 |                   |                 |         |              |
| Germany                | X                 | X               | X       | X            |
| Hungary                |                   |                 |         |              |
| Italy                  |                   | X               | X       | X            |
| Lithuania              | X                 |                 |         |              |
| Netherlands            |                   | X               |         |              |
| Norway                 |                   | X               |         |              |
| Poland                 | X                 | X               | X       |              |
| Portugal               |                   |                 | X       | X            |
| Romania                | X                 |                 |         |              |
| Slovenia               |                   |                 |         |              |
| Slovakia               |                   |                 |         |              |
| Spain                  |                   |                 |         |              |
| Sweden <sup>18</sup>   | X                 | X               | X       | X            |
| Switzerland            |                   | X               |         | X            |
| UK                     |                   |                 |         |              |

Table 2: Services offered within storage sidings in the different IRG-Rail member states.

A regular *train preparation* features external technical checks with the most important step being a main brake-test conducted by the wagon technician — for the train itself as well as for the train plus the locomotive. Additionally, internal cleaning and waste disposal are included in the preparation of passenger trains, whereas the wagon technician does the load securing in case a freight train has to be prepared.

*Preheating* mainly comprises energy supply for heating and cooling passenger trains, while *washing* means external cleaning (frequently done in a separate facility). *Water supply* (describing the re-filling of water tanks with hoses) is often performed on platforms and/or at dead-end stations.

In thirteen states, additional services such as the ones mentioned above are offered within storage sidings. In ten countries, pre-heating is offered within storage sidings, whereas train preparation is offered in seven countries. In five countries, washing of trains and in six countries water supply are provided.

<sup>14</sup> In the event that the track is not occupied with parked wagons, it is used as a track according to its specification – shunting, distribution, loading and unloading etc.

<sup>15</sup> On some sidings electricity is available.

<sup>16</sup> Finland: Same tracks are used for train preparation and shunting, e.g.

<sup>17</sup> Electricity transmission provided. Energy to be purchased from the 3<sup>rd</sup> party.

<sup>18</sup> All of these services can be provided found at some storage sidings. The IM provides pre-heating. Other services undertaken by the RUs themselves, or by external service providers. External service providers can offer e.g. train preparation, washing, light maintenance while trains are parked.

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On the other hand, there are service facilities offering storage of trains in addition to their regular services. In France, for example, the storage of trains for up to maximum 24 hours is included in the services provided by freight terminals — same as is it for loading and unloading in Sweden.

### **d. Request for storage sidings**

The need for storage of trains is usually determined by the train service and the timetable. This raises the question if the capacity for storage has to be done together with the request for train paths or if this can be done separately. In some countries where the IM is the major provider of storage sidings, the request for storage capacities can be done jointly with the request for train paths. However, in the majority of countries this is not necessary and can be done separately - the only exception is Norway, where the capacity is allocated together with the train path. In Switzerland it is done in the same procedure as the request for train paths but with a different deadline<sup>19</sup>. In countries where the major provider of storage sidings is different from the national IM, the storage sidings can usually not be requested jointly.

In ten countries (Austria, Finland, France, Hungary, Netherlands, Norway, Poland, Romania, Sweden and Switzerland), the capacity can be allocated for a maximum duration of one timetable period. In Spain, the capacity in storage sidings outside of passenger stations can be allocated for a maximum period of four years while in Germany, the time period for capacity allocation is subject to a contractual agreement and there is no legal maximum period of time foreseen. The IM (DB Netz AG) for example has implemented a maximum period of storage of five years. In the UK, capacity allocation within storage facilities is subject to a contractual agreement.

Table four shows the capacity allocation for storage sidings, if the capacity is granted for a specific train and/or a specific track as well as the maximum period of time for which the capacity is granted.

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<sup>19</sup>Deadline for the request of train paths is in April, for storage sidings by the end of June.

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|                       | Capacity Request for storage |                            | Storage capacity granted |                        | max. period for storage          |
|-----------------------|------------------------------|----------------------------|--------------------------|------------------------|----------------------------------|
|                       | Together with train path     | Separately from train path | for a designated track   | for a designated train |                                  |
| Austria               | X                            | X                          | X                        |                        | Timetable period                 |
| Belgium               | X                            | X                          | X                        | X                      | Timetable period                 |
| Bulgaria              | X                            | X                          | X                        |                        | No <sup>20</sup>                 |
| Croatia               | X                            | X                          |                          | X                      | No                               |
| Czech Republic        | X                            | X                          |                          |                        | No <sup>21</sup>                 |
| Denmark               | X                            | X                          | X                        | X                      | No                               |
| Finland <sup>22</sup> |                              | X                          | X                        |                        | Timetable period                 |
| France                |                              | X                          | X                        |                        | Timetable period                 |
| Germany               |                              | X                          | X <sup>23</sup>          |                        | No <sup>24</sup>                 |
| Hungary               |                              | X                          | X                        |                        | Timetable period                 |
| Italy                 |                              | X                          | X                        |                        | No                               |
| Lithuania             |                              | X                          |                          |                        | N/A                              |
| Luxembourg            | X                            | X                          | X                        |                        | No                               |
| Netherlands           |                              | X                          | X                        |                        | Timetable period                 |
| Norway                |                              |                            | N/A                      | N/A                    | Timetable period                 |
| Poland                |                              | X                          | X                        |                        | Timetable period                 |
| Portugal              | X <sup>25</sup>              |                            | X                        | X                      | No                               |
| Romania               | X                            | X                          |                          | X                      | Timetable period                 |
| Spain                 |                              | X                          | x                        |                        | Four years                       |
| Sweden <sup>26</sup>  | X                            | X                          | X                        | X                      | Timetable period                 |
| Switzerland           |                              | X                          | X                        | X                      | Timetable period                 |
| UK                    |                              | X                          |                          | X                      | Subject to contractual agreement |

Table 3: Services offered within storage sidings in the different IRG-Rail member states.

<sup>20</sup> Storage capacity in Bulgaria is not allocated in advance.

<sup>21</sup> No maximum period. However, the IM can request that the RU has to remove the stored vehicles within 48 hours.

<sup>22</sup> The answers reflect the major IM.

<sup>23</sup> Opportunity for applying for a defined track, but the IM can allocate another track of equal value.

<sup>24</sup> There is no definition in the law, but the major provider for storage sidings, DB Netz, uses a maximum period of 5 years.

<sup>25</sup> No specific request is required but it is associated with the train path for entering and exiting.

<sup>26</sup> Request can be made either in direct connection with a train path, or as a separate request. When applying for a train path, RUs must be able to demonstrate that they have parking at the station at the arrival station, or apply for parking.

#### **IV. Charging principles**

The requirement in Article 31 (7) was transposed into national law in every member state and is applied to the charges. There are no further regulations in the national law that determine the calculation of storage sidings charges.

However, there are some interesting examples about reasonable profit that are worth mentioning: As the provision of Article 3 (17) on reasonable profit was transposed in all countries, some countries have introduced further regulations. In Poland, for example, the reasonable profit must not exceed 10%. In Romania, the maximum for a reasonable profit is 3%. In Portugal, the IM does not include any profit in the calculation of the charges under the existing charging scheme.

In addition, a productivity goal or an efficiency target can be applied to avoid inefficiencies. Currently, no direct efficiency/productivity targets are applied except for France<sup>27</sup> and the Netherlands<sup>28</sup>. However, in the Netherlands this will most probably change in the upcoming years. In Sweden, the main IM/SFO is a government agency and is subject to a general efficiency requirement imposed on all government bodies.

#### **V. Charging units and charges differentiation**

Speaking in general terms, the answers from the survey show no distinct pattern but rather different methods as to how and in which unit storage sidings are charged throughout Europe. Consequently, there exists a large variety of charging methods: As depicted in Table five, in almost all countries either the length of the train/the tracks or the duration (hour/day/month/year) of the storage plays a major role — accordingly, a combination of these features (length × time) frequently determines the storage charge. Furthermore, RUs may also be charged per service access, per application, per train preparation, for the number of wagons/whole trains or for possible extra equipment needed. Some SFOs additionally distinguish between centrally or locally controlled track areas and congested/non-congested areas, while some others differentiate between short- and long-stay parking.

While in Germany the incumbent DB Netz AG classifies the service “storage” into three additional sub-categories depending on the technical equipment, in Poland, storage sidings with overhaul shops, electric/diesel rolling stock repair shops apply a different level of charges. The charges calculated in Spain take into account the different features of the siding as well. Finally, in Switzerland, it is not a matter of the features but rather of rarity, demand and asset value. In Sweden, charges for storage are also differentiated depending on demand.

#### **VI. Level of Charges**

The level of charges appears to depend not only on the units mentioned above but also on the features of the storage siding, such as the type of tracks, whether the tracks are locally or centrally controlled or the level of traffic. Since the services offered within storage sidings differ significantly, comparing the level of charges is not really meaningful. Nevertheless, table six tries to list some examples for comparison.

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<sup>27</sup> There are currently no quantified productivity targets for sidings but the RB has remained in its bidding opinions that the SFO is not exempt from effort to reduce its costs, for a greater efficiency.

<sup>28</sup> Netherlands: No efficiency targets, but part of performance regime to reduce congestion.

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For selected countries where the siding's length is a key component of the charge, the collected data shows that the variation between all these charges is basically within in the range of a few cents. The fact that the charging level also depends on other features in general explains the difference in prices across the different countries.

The most frequently mentioned method - a charge per hour - is used in eight out of 16 countries and yields prices within a much wider range. Charges seem to be very high in Portugal and Spain. Line three of table six lists the whole scope of different other charging methods.

|             | per train length (in meters) | per siding/ track length (in meters) | per hour        | per day         | per train preparation | per month/year | per loading /unloading | per number of wagons | other charging unit |
|-------------|------------------------------|--------------------------------------|-----------------|-----------------|-----------------------|----------------|------------------------|----------------------|---------------------|
| Austria     | ✓                            | ✗                                    | ✓               | ✓               | ✓                     | ✓              | ✓                      | ✗                    | ✗                   |
| Belgium     | ✗                            | ✓                                    | ✗               | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| Bulgaria    | ✗                            | ✓                                    | ✗               | ✓               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| Croatia     | ✓                            | ✓                                    | ✓               | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| France      | ✗                            | ✓                                    | ✗               | ✓               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| Germany     | ✗                            | ✗                                    | ✓ <sup>29</sup> | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| Hungary     | ✗                            | ✗                                    | ✗               | ✓               | ✗                     | ✗              | ✗                      | ✓                    | ✗                   |
| Italy       | ✗                            | ✗                                    | ✗               | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✓ <sup>30</sup>     |
| Lithuania   | ✗                            | ✗                                    | ✗               | ✓               | ✗                     | ✗              | ✗                      | ✓                    | ✗                   |
| Netherlands | ✗                            | ✓                                    | ✓ <sup>31</sup> | ✓ <sup>32</sup> | ✗                     | ✗              | ✗                      | ✗                    | ✓ <sup>33</sup>     |
| Norway      | ✓ <sup>34</sup>              | ✓ <sup>35</sup>                      | ✓ <sup>36</sup> | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| Poland      | ✗                            | ✗                                    | ✓               | ✗               | ✓                     | ✗              | ✓                      | ✓                    | ✓ <sup>37</sup>     |
| Portugal    | ✗                            | ✗                                    | ✓               | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| Romania     | ✗                            | ✗                                    | ✓ <sup>38</sup> | ✗               | ✗                     | ✗              | ✗                      | ✓                    | ✗                   |
| Spain       | ✗                            | ✓ <sup>39</sup>                      | ✗               | ✗               | ✗                     | ✓              | ✗                      | ✗                    | ✓ <sup>40</sup>     |
| Sweden      | ✗                            | ✓ <sup>41</sup>                      | ✓               | ✓ <sup>42</sup> | ✗                     | ✗              | ✗                      | ✗                    | ✓ <sup>43</sup>     |
| Switzerland | ✓                            | ✗                                    | ✗               | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✗                   |
| UK          | ✗                            | ✗                                    | ✗               | ✗               | ✗                     | ✗              | ✗                      | ✗                    | ✓ <sup>44</sup>     |

Table 4: Chaging units used by the different countries

As table five shows, the charging units used vary significantly between the different member states. Therefore, it is not easily possible to compare the different level of charges. In order to

<sup>29</sup> For the Incumbent. Other SFO than the incumbent have different charging systems.

<sup>30</sup> IM: Per service access.

<sup>31</sup> In congested areas.

<sup>32</sup> In non-congested areas.

<sup>33</sup> Differentiation between centrally and locally controlled track areas.

<sup>34</sup> IM has not specified whether "length" refers to train or track length.

<sup>35</sup> IM has not specified whether "length" refers to train or track length.

<sup>36</sup> Per hour per meter in two storage siding facilities (in addition to charge per siding length).

<sup>37</sup> Per train.

<sup>38</sup> parking (free up to 6 hours) ,long-stay parking (free up to 30 days) and loading/unloading activity (free up to 24 hours)

<sup>39</sup> Used for sidings located in service facilities other than railway stations.

<sup>40</sup> The additional equipment needed also affects the calculation formula. The station category also affects at the sidings in the railway station. Please find a detailed display of the Spanish charging system in the Annex.

<sup>41</sup> Pper hundred metres commenced.

<sup>42</sup> For long-stay storage.

<sup>43</sup> Per application (for long-stay storage).

<sup>44</sup> Subject to contractual agreement between parties (not prescribed, tend to be based on duration).

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compare the level of charges and to make some meaningful comparison, two methods are applied here:

- 1.) Comparison of the level of charges by charging unit
- 2.) Comparison of the level of charges by an example train

**a. Charges comparison by charging unit**

The following tables categorise the charges by the charging unit per length of the siding (per metre and day), by the hour (per train length or train) and other charging units which can not be categorized in a better way. For Poland, Slovenia and the UK no data for comparison is available on the level of the charges.

|                                      | Bulgaria                   | Croatia                     | France                | Netherlands                 | Sweden                      |
|--------------------------------------|----------------------------|-----------------------------|-----------------------|-----------------------------|-----------------------------|
| Siding length<br>(per meter and day) | € 0.05 - 0.3 <sup>45</sup> | € 0.03 - 0.32 <sup>46</sup> | € 0.024 <sup>47</sup> | € 0.14 - 0.17 <sup>48</sup> | € 0.01 – 0.13 <sup>49</sup> |

Table 5: charges per siding length in the different countries, which are using this charging unit

Table six compares the charges per length of the storage siding in the countries, which are using this charging unit. Except for France<sup>50</sup>, in every country the charges vary and depend on other factors. In Bulgaria the charges depend on the type of tracks that are used for storage, while in Sweden the charges depend on the level of traffic. In the Netherlands the charges depend on whether the area is locally or centrally controlled. The categorisation into two railway siding areas in the Netherlands is based on whether the tracks are (CCA = centrally controlled area) or not (LCA = locally controlled area). The underlying costs between de two are different and this results in different charges. In a locally controlled sidings area, for example, a signalman is present.<sup>51</sup>

The charges per meter of the siding and day vary between € 0.024 in France to € 0.3 in Croatia.

<sup>45</sup> Depending on the type of tracks.

<sup>46</sup> Depending on the type of tracks and request.

<sup>47</sup> The charge is 24 € per km per year and was transformed from km to m.

<sup>48</sup> Depending on whether area is locally or centrally controlled - annual fee divided by 365.

<sup>49</sup> Depending on the level of traffic. Charges in the Annex are per hour and 100 m of track

<sup>50</sup> In 2018. However, in 2019, the charges will depend on whether the access/using of storage sidings does/does not generate traffic management costs (0,024 € without traffic management costs, 0,037€ with traffic management costs).

<sup>51</sup> In the Netherlands, from 2020 this will probably change into one charging scheme.

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|          | Norway | Austria         | Germany                     | Hungary                                | Portugal                               | Romania                               | Spain                   | Slovakia              |
|----------|--------|-----------------|-----------------------------|--|--|---------------------------------------|-------------------------|-----------------------|
| Per hour | € 0.04 | € 0.006 - 0.013 | € 1.12 – 3.89 <sup>52</sup> | € 0.02 - 0.04 per waggon <sup>53</sup> | € 1.54 per storage track <sup>54</sup> | € 0.04 - 0.12 per wagon <sup>55</sup> | € 1.12 - 4.49 per train | € 0.008 per per wagon |

Table 6: Comparison of charging levels and units across member countries.<sup>56</sup>

In table seven, the charges in different countries are listed based on time, but not on the length of the siding. In Norway and in Austria the charges are based on the length of the train and the duration of the storage. In Portugal, storage is charged by the duration and storage track, while in Hungary and Slovakia the charge is based on the number of wagons.

|                     | Italy                                    | Luxembourg      | Switzerland   |
|---------------------|--|-----------------|---|
| other charging unit | € 27,20 per service access <sup>57</sup> | € 3.1 per wagon | Type of station A = 0.042 cent/meter/hour<br>Type of station B = 0.028 cent/meter/hour<br>Type of station C = 0.014 cent/meter/hour |

Table 8: Comparison of charging levels and units across member countries.<sup>58</sup>

In table eight the charges which are neither based on the hour nor on the length of the storage siding are shown. In Italy, the charge for the use of the storage siding includes also one week of storage. In Luxembourg, the charge is based on the number of wagons. In Switzerland, storage is only charged in stations and depend on the category of the station.

**b. Charges comparison by an example train**

The second method to compare the level of charges for storage in the different countries is by using an example train. As passenger trains are usually stored for a shorter period of time, a freight train was taken as an example with a train length of 500 m, consisting of 25 wagons of 20 m each, were taken as parameters. For countries, who are using the length of the siding, a length of 700 m was selected and the duration for storage was assumed to be one week. The following graph shows the charges for the storage of the mentioned example for a freight train.

<sup>52</sup> Storage charges of the incumbent DB Netz AG.

<sup>53</sup> The charges are per wagon and day. For comparison reasons, they were calculated per hour.

<sup>54</sup> This is the charge that a RU pays per hour for occupying a storage track, regardless of its length, with one or more trains of the same type or service.

<sup>55</sup> The charges are for loading/unloading and for short time parking per hour. A charge of 0,39 € per day applies for the long-time parking.

<sup>56</sup> Charges stated in other currencies than EUR were converted at recent exchange rates.

<sup>57</sup> The charge is due every 7 days.

<sup>58</sup> Charges stated in other currencies than EUR were converted at recent exchange rates

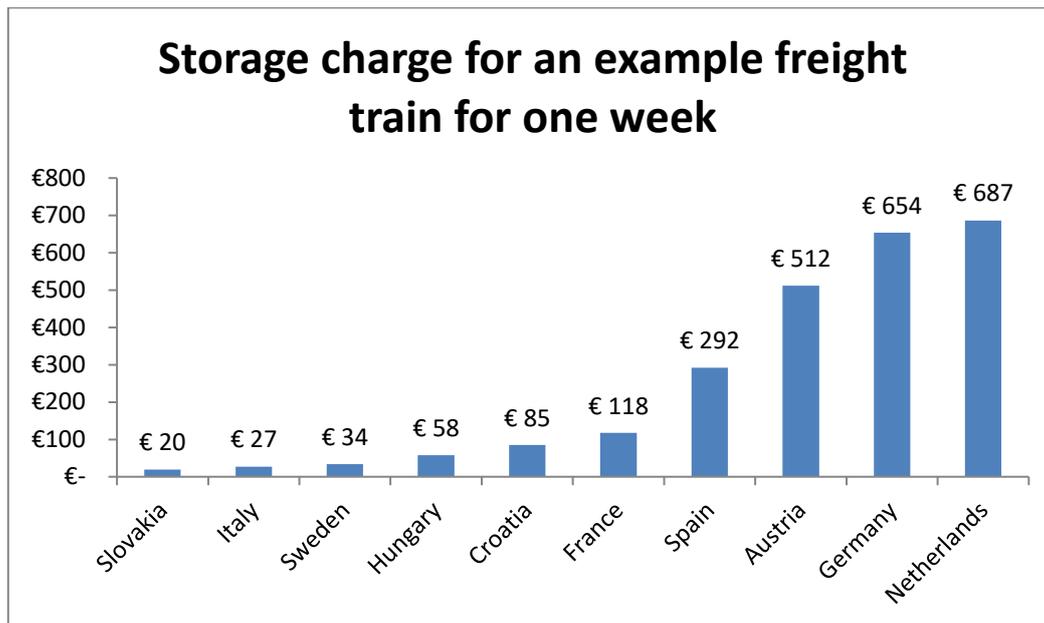


Figure 2: Comparison of charging levels and units across member countries.<sup>59</sup>

The charges for storage are relatively low in Slovakia and Italy. In both countries the values are referring to the 2018 existing charging scheme and a new charging scheme for storage siding will be applied in the next years. In Sweden this refers to storage outside of parts of major urban areas. Within major urban areas the charges are much higher and go up to € 626. In Spain the amount refers to the minimum<sup>60</sup> service and additional equipment of the storage track will change the price, so that the price may vary from € 267 to € 540. On the high side are Austria<sup>61</sup>, Germany and the Netherlands<sup>62</sup>. In Austria and Spain the price will decrease over longer period of storage.

## VII. Calculation of charges and costs covered

It is interesting to compare which costs are covered by the charges for storage sidings. According to Article 31 (7), full costs can be recovered from the charges on storage sidings. In some countries, the charges for storage may recover the full costs plus a reasonable profit. This is the case in Austria, France, Germany, Hungary, Italy, or Switzerland. On the other hand, in Poland<sup>63</sup> for a number of storage sidings, the charges for storage sidings are only allowed to recover the costs directly incurred, and this reflects the situation that storage sidings are part of the MAP in these countries<sup>64</sup>. In Norway, the charges for storage sidings shall only recover costs of operation and maintenance plus a profit margin, based on the book value of the assets

<sup>59</sup> Charges stated in other currencies than EUR were converted at recent exchange rates and all values were rounded.

<sup>60</sup> This charge includes a storage sidings with catenary. The charges for sidings without catenary are lower.

<sup>61</sup> Charge is based on long term storage, as RUs apply usually for long term storage only and ad-hoc storage is only charges in exceptional cases

<sup>62</sup> These charges are based on the new method for 2020 where storage is no longer part of the MAP.

<sup>63</sup> In Poland storage siding belong either to the MAP or are seen as service facility. If storage sidings are a part of the MAP - the charges for storage sidings shall only recover the costs directly incurred. If storage sidings are service facilities, charges for getting access to service facility shall not exceed the costs of making the facility available, incurred by the operator, increased by a reasonable profit.

<sup>64</sup> These charges are based on the new method for 2020 where storage is no longer part of the MAP.

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of storage sidings. The current charging schemes for storage sidings in France and Spain only cover direct maintenance cost of storage sidings. In France, however, this may change in the near future<sup>65</sup>.

Five countries (Austria, France, Germany, Italy and Norway) have answered that they can include a reasonable profit in the calculation of their charges for storage sidings. In Germany the reasonable profit is generally determined by accounted borrowing costs and imputed costs of equity (CAPM). In Norway, the IM has proposed to use a 4% rate for the reasonable profit. In Poland, a reasonable profit can be included on the average rate of the return of the sector in the last years, but this must not exceed 10%. The IM has set the rate by considering what the IM views as being alternative or comparable investments for the Norwegian State.

In the majority of countries, there is no regulation on the regulatory asset base. The only two exceptions are France and Italy. In France, the regulatory asset base has to be consistent with the list of all the installations in the Service Facility Descriptions. In Italy, the IM has to specifically identify both the asset components and revenue components that refer to the furniture of the storage sidings.

### **VIII. Role of the regulatory body, complaints, and decisions**

Recently seven regulators have opened investigations or have taken decisions concerning charges of storage sidings. In Germany, there is an ongoing investigation into charges for storage sidings. The regulatory bodies of Italy, Spain<sup>66</sup> and France have taken decisions on storage sidings in recent years. France delivers a binding opinion annually for the working timetable. The regulatory body of Slovenia has decided on charges for storage sidings in the Port of Koper. In Czech Republic, the regulatory body decided that the absence of charges for storage sidings does not comply with the law.

On the other hand, there are some countries where the regulatory body does not investigate specifically the charges for storage sidings and where no complaints have been received to date. It can be argued that the system of charges for storage sidings may be adequate for the market. However, (informal) complaints about storage sidings have been filed in at least two countries. In the Netherlands, this has led to investigations by the regulatory body.

The competence of the regulatory bodies varies between the different member states: In some countries, the regulatory bodies can only take ex-post decisions (like Austria, Czech Republic, Hungary or Luxembourg). On the other hand, some regulatory bodies may also take an ex-ante decision (like in Italy, Spain and the UK). In Finland, there are only ex-post decisions possible in general, but under certain special circumstances, an ex-ante decision can be taken. In the Netherlands, the regulatory body investigates, assesses and approves the conditions for access to service facilities ex-ante before a public procurement procedure of a PSO-contract can be finalised.

In the majority of the countries, the regulatory body can take binding decisions. However, in some countries, it is possible that the regulatory body also takes a non-binding decision or give recommendations. In other countries, the regulatory body can only take decisions or have

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<sup>65</sup> France: In the network statement in the year 2019, traffic management costs of dedicated signal boxes will be covered, (if any + justified)

<sup>66</sup> As far as those charges are included in the general budget of the IM, the regulatory body has taken decision about the level of the charges the last year.

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informal consultations with the IM. In addition to take binding decisions, the regulatory body in Germany can also try to reach solutions by mediation. In Spain, the regulatory body takes a binding decision for the IM, but as the charges are set by the Parliament based on what the IM has sent to the Parliament (including the RB decision), the Parliament is not obliged to take into consideration what is sent by the IM and therefore, it could be different from what the RB has decided.

### **IX. Conclusion**

This paper reviews how the main service providers in 25 IRG members states charge for parking in storage sidings.

The charging systems across member states show a remarkable variety across many of the dimensions that have been reviewed. This is true not only for the level of charges, but also such features as the duration for which parking is free (from one hour in Portugal up to 48 hours in Bulgaria). The main similarities in the charging systems appear to be that most countries charge for storage sidings using a combination of the length of track occupied or the length of the parked train, and duration of storage.

The differences mostly reflect the national and regional specificities, as well as the special needs of the different railway markets. Indeed, some countries do not charge for storage sidings and others have only recently started doing so. The reasons for recent introductions of charging systems include addressing capacity problems in storage facilities or an inefficient use of them. In addition, IMs across member states have been redesigning the charges system to fulfill the legal requirements of the Directive 2012/34/EU and as a result charging provisions for storage sidings are being re-designed.

The differences in charging systems make it difficult to make meaningful comparisons between countries. In an attempt to do so, we have compared what an RU would pay for one week of storage of an illustrative freight train. This price varies greatly between countries that have responded, from EUR 19.50 in Slovakia to EUR 687 in the Netherlands. The drivers behind this price variation have not been determined in this report and warrant further research.

The similarities between countries lie mainly in how storage as a service is handled, e.g. the request of capacity. In nearly all member states the request for capacity is different from the request for track access, however in a number of countries the same IT tools can be used for requesting capacity. The maximum periods, for which capacity can be allocated, are also orientated in a number of states by the timetable period, whereas in some countries these period may significantly exceed the timetable period.

The introduction to this paper mentioned that a modern charging systems for storage sidings should provide sufficient incentives to achieve efficient use of existing storage capacities. Some countries have changed their charging systems in recent years or are changing it over the next years, including such incentives. At the moment there is not enough evidence to show whether the existing incentives have created the planned results. This paper gives an overview of the charging schemes in different countries. Further work is needed to get a better understanding of the differences in those charging systems and collect more evidence on the effect of incentives on the charging schemes of the different countries.

**X. Annex**

This Annex presents further information on storage sidings in the countries, which contributed to this paper and which provided detail information for the Annex. These information contain the market structure of providers of storage sidings as well as information on the charging scheme itself.

**Austria**

The major provider for storage sidings in Austria is the national IM (ÖBB Infrastruktur AG). Furthermore, other SFOs also offer this service. The following table gives a short overview of the market structure for storage sidings in Austria.

|  | Who is offering the service | Number of storage facilities | Length of storage facilities |
|--|-----------------------------|------------------------------|------------------------------|
| IM                                       | X                           | 678 <sup>67</sup>            | 237.2 km                     |
| RU Incumbent                             |                             |                              |                              |
| RUs (not related to the incumbent)       | X <sup>68</sup>             | 63 <sup>69</sup>             | 9.4 km                       |
| SFO (not related to the incumbent or IM) |                             |                              |                              |

Table 7: Market structure of storage sidings in Austria

In the network statement for 2019, the IM has adapted the charges for storage sidings slightly: The stabling for rolling stock is free for up to six hours if it is stabled regularly<sup>70</sup>. If the stock is not stabled regularly, parking is free for up to 24 hours. Afterward, it will be charged. For regular stabling, the storage is charged daily or monthly, with decreasing charges for long-term stabling. For non-regular stabling, the storage is charged daily. The charges are usually paid per train meter and multiplied by the duration of storage.

| Designation                                    | Duration of use                     | Charge in € per meter |
|--|-------------------------------------|-----------------------|
| Free use of stabling capacity                  | ≤ 6 hours                           | Free                  |
|  | ≤ 24 hours, sporadic                | Free                  |
| Short-term use of stabling capacities (ad hoc) | > 24 hours                          | 0.313                 |
| Long-term use of stabling capacities           | > 6 to ≤ 24 hours, regular          | 0.27                  |
|  | ≥ 1 month                           | 5.45                  |
|  | ≥ 1 month, in order for ≥ 10 months | 4.54                  |

Table 8: Storage charging scheme for OEBB Infrastruktur AG 2018

<sup>67</sup> Calculated number based on the average length of the storage tracks (350 m).

<sup>68</sup> Integrated RUs other than the incumbent.

<sup>69</sup> Calculated number based on the average length of the storage tracks (150 m - these storage sidings are shorter than ones of the incumbent IM).

<sup>70</sup> Regular is defined within the network statement as at least 14 days per month and if the stabling is notified in advance (not ad-hoc).

**Croatia**

The major provider for storage sidings in Croatia is the national IM (HŽ Infrastruktura d.o.o.). They provide service for stabling of vehicles on all tracks because they do not have exactly defined storage sidings. The use of storage sidings includes the use of appropriate track capacities, which a railway undertaking requires for rolling stock stabling. Furthermore, other SFOs also have storage sidings, but they use it for their needs. The following table gives a short overview of the market structure for storage sidings in Croatia.

|  | Who is offering the service | Number of storage facilities | Length of storage facilities |
|--|-----------------------------|------------------------------|------------------------------|
| IM                                       | X                           | n/a                          | n/a <sup>71</sup>            |
| RU Incumbent                             | X <sup>72</sup>             | n/a                          | n/a                          |
| RUs (not related to the incumbent)       | 0                           | 0                            | 0                            |
| SFO (not related to the incumbent or IM) | 0                           | 0                            | 0                            |

Table 9: Market structure of storage sidings in Croatia

In the network statement for 2019, the IM has published the charges for storage sidings:

Charges for the use of storage sidings are calculated according to the following formula:

$$C = \sum(n_{voz} l_{voz}) C_g t$$

Key:

C - charge for the use of storage sidings

$n_{voz}$  - number of vehicles

$l_{voz}$  - length of vehicles in meters

$C_g$  - basic price for the use of storage sidings per meter per hour

t - number of hours of use of stabling tracks

The average length of an individual type of vehicle [ $l_{voz}$ ] is taken as the length of the individual vehicle as follows:

| Vehicle type                  | Average length [m] |
|-------------------------------|--------------------|
| freight wagon                 | 16                 |
| passenger coach               | 25                 |
| electric or diesel locomotive | 18                 |
| electric motor unit (EMU)     | 73                 |
| diesel motor unit (DMU)       | 35                 |

Table 10: Average length of vehicles for the storage charges scheme in Croatia

<sup>71</sup> IM provide this service on every track where they have capacities (for example in train station or marshalling yards).

<sup>72</sup> They use it for their needs.

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The basic price for the use of storage sidings per meter length per hour amounts to HRK<sup>73</sup> 0.0079 + VAT. Basic price for the use of main tracks for stabling of vehicles per meter of track per hour amounts to HRK 0.05 + VAT.

It is applicable for vehicles that are stabled on the main tracks for more than 24 hours for the entire time of stabling. If the railway undertaking stables the vehicles without a submitted request, it will be charged for the use of storage sidings in double the amount of the basic price per meter per hour.

The period of less than 24 hours, during which freight wagons are waiting for loading/unloading is not considered as storage.

The period of less than 4 hours, during which passenger coaches (classic, DMU and the EMU) are waiting in departure/end stations is not considered as storage.

| Designation  | Duration of use          | Charge in HRK per meter |
|--|--------------------------|-------------------------|
| Free use of stabling capacity - freight wagons                                     | ≤ 24 hours – main track  | Free                    |
|  | ≤ 24 hours – other track | Free                    |
| Free use of stabling capacity - passenger coaches                                  | ≤ 4 hours – main track   | Free                    |
|  | ≤ 4 hours – other track  | Free                    |
| Use of stabling capacity - freight wagons  | > 24 hours – main track  | 0.05 + VAT              |
|  | > 24 hours – other track | 0.0079 + VAT            |
| Use of stabling capacity - passenger coaches                                       | > 24 hours – main track  | 0.05 + VAT              |
|  | > 24 hours – other track | 0.0079 + VAT            |
| Use of stabling capacity - freight wagons – stabled without a submitted request    | > 24 hours – main track  | (0.05 + VAT) X 2        |
|  | > 24 hours – other track | (0.0079 + VAT) X 2      |
| Use of stabling capacity - passenger coaches – stabled without a submitted request | > 24 hours – main track  | (0.05 + VAT) X 2        |
|  | > 24 hours – other track | (0.0079 + VAT) X 2      |

Table 11: Storage charges scheme in Croatia

<sup>73</sup> 24 September 2018 – 1 Euro – 7,42 kuna, link: <https://www.hnb.hr/temeljne-funkcije/monetarna-politika/tecajna-lista/tecajna-lista>

**Finland**

The major provider for storage sidings in Finland is the national IM (Finnish Transport agency). Furthermore, the incumbent RU (VR) has storage sidings, but no information exists regarding their number or length. The following table gives a short overview of the market structure for storage sidings in Finland.

|  | Who is offering the service | Number of storage sidings | Length of storage facilities |
|--|-----------------------------|---------------------------|------------------------------|
| The main IM                              | X                           | 1814 <sup>1</sup>         | 626 km <sup>1</sup>          |
| RU Incumbent                             | X                           | NA                        | NA                           |
| RUs (not related to the incumbent)       |                             |                           |                              |
| SFO (not related to the incumbent or IM) |                             |                           |                              |

Table 12: Market structure of storage sidings in Finland

The IM does not currently charge for the use of storage sidings, and therefore they have not specified any differentiation of the charges. However, the process of applying for storage capacity is affected by the length of the planned storage period. It should be noted that the IM does not classify any specific tracks as storage sidings, and hence the numbers presented in the table above refer to estimated amounts of track used as storage sidings.

**France**

In France, storage sidings are specific sidings, different from sidings in other service facilities like freight terminal (sidings for loading/unloading) or passenger stations (sidings with platform for the ascent/descent of passengers).

The major provider for storage sidings in France is the national IM (SNCF Réseau ). The following table gives a short overview of the market structure for storage sidings in France.

|  | Who is offering the service | Number of storage facilities | Length of storage facilities |
|--|-----------------------------|------------------------------|------------------------------|
| IM                                       | X                           | NA <sup>74</sup>             | NA                           |
| RU Incumbent                             |                             |                              |                              |
| RUs (not related to the incumbent)       |                             |                              |                              |
| SFO (not related to the incumbent or IM) |                             |                              |                              |

Table 13: Market structure of storage sidings in France

The charges are usually paid per kilometer and per day. A minimum amount of time (24 hours) is charged.

<sup>74</sup> SNCF Réseau has undertaken a work to identify and map storage sidings (number of storage sidings, their length, and location. In particular, "storage sidings" must be distinguished from "marshalling yards and train formation facilities, including shunting facilities", which was not the case.

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In the network statement for 2019, the IM has increased the charges for storage sidings as the IM has made progress in its understanding and justification of the costs of providing the service for some storage sidings. In 2018, charges cover direct costs of maintenance. In 2019, traffic management costs of dedicated signal boxes will be covered as well, for some storage sidings only (not all the storage sidings).

| Designation | Duration of use/charging  | Charge in € per meter and per day  |
|-------------|---|--|
| Free use    | 0   |  |
| Charges     | Minimum : 24 hours<br>Maximum : timetable periode <sup>75</sup> | 0.024 € for all storage sidings in 2018<br>0.037 € in 2019 for some sites only <sup>76</sup> . 0.024 € for the other storage sidings |

Table 14: Storage charges scheme in France for 2018 and 2019

## Germany

The major provider for storage sidings in Germany is the national IM (DB-Netz AG). Furthermore, other SFOs also offer this service. The following table gives a short overview of the market structure for storage sidings in Germany.

|  | Who is offering the service | Number of storage facilities | Length (km) of storage facilities |
|--|-----------------------------|------------------------------|-----------------------------------|
| IM (incumbent)                           | X                           |                              | 3,986                             |
| Other IM                                 | X                           | 64                           | 196                               |
| RU Incumbent                             |                             |                              |                                   |
| RUs (not related to the incumbent)       | X                           | 28                           | 103                               |
| SFO (not related to the incumbent or IM) | X                           | 125                          | 280                               |

Table 15: Operators of storage sidings in Germany

DB Netz AG has changed its charging system for service facilities a few years ago. Before, there used to be a specific charge for each siding according to its length and configurations, e.g. electrification, character of track switches.

Since then, DB Netz AG mainly distinguishes between three functionalities:

- the train forming and splitting functionality,
- the stabling and preparing functionality and
- the loading and unloading functionality.

<sup>75</sup> If a RU wants to use sidings for a long-time parking for material which have been written-off, the service doesn't relate to storage sidings as storage siding are "specifically dedicated to temporary parking of railway vehicles between two assignments". This is another service.

<sup>76</sup> 24 marshalling yards with shunting and storage sidings

Each of those functionalities are subdivided into three product categories. There is a standard price for all facilities in every category. Price setting is based not only on cost differential, but also on customer value. Technically advanced facilities will be sorted into a higher priced category.

Concerning stabling, there are three different categories:

- The "**Stabling I**" product category comprises all assets with the stabling and preparing and relief functionalities that fulfil the following parameters in the points technology and in the effective length of the tracks:
  - double-sided tracks over an effective length of 215 m with points connection in
    - remote-controlled technology
    - combined remote-controlled and site-controlled electric points
    - combined remote-controlled and manual
  
- The "**Stabling II**" product category comprises all assets with the stabling and preparing and relief functionalities that fulfil the following parameters in the points technology and in the effective length of the tracks:
  - single-sided tracks with points connection in
    - local electric point technology
    - remote-controlled technology
  - double-sided tracks with points connection in
    - local electric point technology
    - remote-controlled technology up to an effective length of max. 215 m
    - combined local electric point and manual technology
    - combined local electric point and remote-controlled technology up to an effective length of max. 215 m
    - combined remote-controlled and manual technology up to an effective length of max. 215 m
  
- The "**Stabling III**" product category comprises all single/double-sided track assets with the stabling and preparing and relief functionalities in which the points connection takes place in manual technology.

|              | Charge in €     |
|--------------|-----------------|
| Stabling I   | 3,89 € per hour |
| Stabling II  | 1,74 € per hour |
| Stabling III | 1,12 € per hour |

Table 16: Stabling charges for DB Netz AG for 2019

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**Hungary**

The major providers for storage sidings in Hungary are the national IMs MÁV Zrt. and GYSEV Zrt. Furthermore, 5 SFOs also offer this service.

According to the Network Statement, the two national IMs shall provide the service if the service has been ordered in the train path requesting informatics system. The service comprises the ensuring the storage of vehicles beyond 24 hours, the use of sidings enabling track access to storage sidings and the provision of relating traffic operation activity. Safe-keeping and protection of stored vehicle(s) is the obligation of the railway undertaking; the service does not comprise the protection itself. Amount to be paid in case of using the storage service is charged in full days starting 24 hours after the arriving time of the vehicle to the given station registered by the infrastructure manager.

**Italy**

The major provider for storage sidings in Italy is the national IM (RFI- Rete Ferroviaria Italiana). Furthermore, other SFOs also offer this service. The following table gives an overview of the market structure for storage sidings in Italy.

|  | Who is offering the service | Number of storage facilities | Length of storage facilities |
|--|-----------------------------|------------------------------|------------------------------|
| IM                                       | X                           | 971 <sup>77</sup>            | n.d.                         |
| RU Incumbent                             | X                           | 32                           | n.d.                         |
| RUs (not related to the incumbent)       | X                           | n.d                          | n.d                          |
| SFO (not related to the incumbent or IM) | X                           | n.d.                         | n.d                          |
| SFO (related to incumbent or IM)         | X                           | 6                            | n.d.                         |

Table 17: Services offered within storage sidings in Italy

In the network statement for 2019, the charging for storage sidings by IM follows these rules: the stabling for rolling stock is free for up to one hour. Afterward, it is charged. The storage is charged for access and it is paid for seven days independent on the duration of storage. In case of long term stabling, for each period of 7 days, additional access to service must be request.

| Designation                          | Duration of use      | Charge in € per meter |
|--------------------------------------|----------------------|-----------------------|
| Free use of stabling capacity        | ≤ 1 hour             | Free                  |
| Long-term use of stabling capacities | > 1 hour to ≤ 7 days | 27,20                 |

Table 18:Charging of storage sidingsby the IM in Italy

<sup>77</sup> 758 storage sidings for short - time parking and 213 storage sidings for long-time parking.

**Portugal**

The only provider for storage sidings services in Portugal is the national Infrastructure Manager (“IM”), IP - Infraestruturas de Portugal, SA (“IP”). There are some (very few) storage sidings facilities operated by the incumbent RU or private operators that do not provide storage services to third parties. The IM does not own or operate a facility specifically designed or used only for rolling stock parking. The IM allows rolling stock parking in stations or other service facilities where traffic flow will be unaffected by the presence of the parked rolling stock. The following table gives a short overview of the market structure for storage sidings in Portugal, considering only storage facilities with more than two tracks.

|  | Who is offering the service | Number of storage facilities <sup>1</sup> | Length of storage facilities |
|--|-----------------------------|---|------------------------------|
| IM                                       | X                           | 49  | 70,7 km                      |
| RU Incumbent                             |                             |   |                              |
| RUs (not related to the incumbent)       |                             |   |                              |
| SFO (not related to the incumbent or IM) |                             |   |                              |

Table 19: Market structure of storage sidings in in Portugal

Rolling stock parking is free for a period up to one hour and for any amount of time approved by the IM in the technical timetable. For periods longer than one hour, a rate of 1,51€ per hour of rolling stock parking is applied, (hours are rounded by default).

The fee includes the total length of the storage siding for parking trains rendering the same service type (i.e. passenger or freight) and does not include electricity or water consumptions. If the parked trains render two different service types (i.e. passenger and freight) the charging rate is applied twice.

| Designation           | Duration of use | Charge in € per hour |
|-----------------------|-----------------|----------------------|
| Rolling stock parking | ≤ 1 hour        | Free                 |
|                       | > 1 hour        | 1.51                 |

Table 20: Market structure of storage sidings in Portugal

<sup>1</sup> Service facilities (usually stations or halts) with more than two railway tracks, that may accommodate rolling stock parking.

**Slovakia**

The new charging system will be in force from 2019. This change will be included in Network statement 2019. The major provider of storage sidings in Slovak republic is infrastructure manager (ŽSR). The storage sidings services will be charged after first 36 hours and calculated for every started 24 hours. but the last 36 hours before the wagon leaves the station will not be charged. The charge is set by he Slovak legislation (generally binding legislation) as 0.195€ per day and wagon without tax. The charge is calculated to each railway undertaking equally.

**Spain**

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The current charging system for storage sidings in Spain differentiate between storage sidings in passenger stations (including platform) and other storage sidings:

1. Storage charges for siding are located in a railway station.

The charges for the use of a siding with a platform for other operations depend on the type of service provided and the category of the station, obtaining the following charges for 2018:

| Station category             | Service           | Charge in € |
|------------------------------|-------------------|-------------|
| 1-2                          | Train cleaning    | 0.6818      |
| Rest                         | Train cleaning    | 0.5681      |
| 1-2                          | Load on the train | 0.6722      |
| Rest                         | Load on the train | 0.5601      |
| Other services <sup>78</sup> |                   | 0.3947      |

Table 21: Storage charges for sidings in passenger stations in Spain

2. Siding located in other service facilities.

The amount is associated with the cost of the equipment available and the one requested, considering the time of use, applying the following formula:

$$\text{Charge}_D = (C_{\text{base}} + C_{\text{Equipment}}) \times T \times K$$

Where,

$C_{\text{base}}$  is the base cost calculated through the sum of the length of the track, the length of the catenary and the number of deviation, all of them multiply respectively by a factor that quantifies the cost per meter of each of them (see table 4).

$C_{\text{equipment}}$  is the sum of two concepts, the first one is the sum of costs (on average for the whole network estimated as a factor as shown in the table below) of the different linear equipment required multiplied by their length, and the second one is the sum of each punctual equipment multiplied by their factor (see table 4). Some of this equipment is optional, so they will not charge it if not requested.

T, time requested for the use of the siding.

K is a factor that weighs the time period object of the authorization according to the following table:

<sup>78</sup> Those can be the Use of water intakes, use of fuel installations, use of electrical outlets, use of toilet drain installations and other similar installations.

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| Continued use time      | Factor        |
|-------------------------|---------------|
| For 4 years             | 0.96          |
| For 3 years             | 0.97          |
| For 2 years             | 0.98          |
| For 1 year              | 1             |
| For months              | 1.35          |
| <i>Puntual use time</i> | <i>Factor</i> |
| For days                | 2.00          |
| For hours               | 2.50          |

Table 22: Coefficient depending on the time of use of the siding.

Each year, the IM establish different factors associated with the different track components and equipment, so for 2018, the values are the followings:

| Factor                    | Charge unit          |
|---------------------------|----------------------|
| $C_{base}$                |                      |
| $C_{track}$               | 5.402 €/m-year       |
| $C_{catenary}$            | 1.826 €/m-year       |
| $C_{deviationI}$          | 564.755 €/unit-year  |
| $C_{deviationII}$         | 2165.954 €/unit-year |
| $C_{equipment}$           |                      |
| $C_{corridor}$            | 1.191 €/m-year       |
| $C_{track\ lights}$       | 1.368 €/m-year       |
| $C_{beach\ lights}$       | 2.026 €/m-year       |
| $C_{fire\ protection}$    | 5.953 €/m-year       |
| $C_{load\ dock}$          | 52.490 €/m-year      |
| $C_{equipment\ optional}$ |                      |
| $C_{tray}$                | 521.516 €/unit-year  |
| $C_{fuel\ tray}$          | 820.049 €/unit-year  |
| $C_{ladder}$              | 20.945 €/unit-year   |
| $C_{ditch}$               | 118.050 €/unit-year  |
| $C_{maintenance\ ditch}$  | 188.388 €/unit-year  |
| $C_{load\ ramp}$          | 602.613 €/unit-year  |
| $C_{supply\ connection}$  | 43.750 €/unit-year   |

Table 23: Coefficient depending on the components of the siding.

Additionally, discounts can be applied when there is an additional user on the siding, potentially benefiting both, the main user and the owner because the time used by another RU is subtracted to the main one.

In the case of some sidings specially indicated for long time use, the IM could apply a maximum discount of 50% of the charge.

If a punctual request is canceled with less than 24 hours in advance, the full canon has to be paid.

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The minimum time for using a siding is 4 hours, but it is possible to review those criteria every year.

### Sweden

The main provider for storage sidings in Sweden is the Swedish Transport Administration (Trafikverket). In total, Trafikverket manage nearly 500 km of tracks that available for storage.

Storage en route is free for up to one hour per intermediate station. All other storage is charged according to the length of the track and the duration of storage. The charge for short-term storage is differentiated geographically. Zone A storage areas are found in parts of the three main urban areas of Sweden: Stockholm, Gothenburg and Malmö. All other areas are designated as Zone B. Long-term storage is available by special arrangement if there are available tracks. In addition to a charge for the length and duration of the track, Trafikverket charge for handling applications for long-term storage.

| Designation                 | Charging Unit                               | Charge <sup>79</sup> |
|-----------------------------|---|----------------------|
| Short-term storage – Zone A | per hour commenced per 100 m of tracks      | SEK 5.50<br>EUR 0.53 |
| Short-term storage – Zone B | per hour commenced per 100 m of tracks      | SEK 0.30<br>EUR 0.03 |
| Long-term storage           | per day and 100 m of tracks                 | SEK 3.00<br>EUR 0.29 |
|                             | per hour commenced for handling application | SEK 700<br>EUR 68    |

Table 24: Storage charging scheme in Sweden

### UK

The Railways (Access, Management and licensing of railways undertakings) Regulation 2016 translates the 2012/34/EU Directive into national legislation. So it describes storage sidings as in Article 3 (29) of the Directive, i.e., as “sidings specifically dedicated to temporary parking of railway vehicles between two assignments.” The regulation also follows the Directive’s spirit by saying that the charge imposed for such a service “must not exceed the cost of providing it, plus a reasonable profit.” It also stipulates that access must be non-discriminatory.

In practice, the charge for storage sidings is regulated by ORR either via the five yearly periodic review of access charges in the case of storage sidings managed by the IM, or via the ORR pre-approval of access contracts in the case of storage sidings within light maintenance depots. In some circumstances, network sidings ( as part of the railway infrastructure) may be used for stabling or storage of vehicles where this can be accommodated without detriment to infrastructure operators. As these belong to the IM (Network Rail) applications for access are made as for the rest of the network and access rights may be guaranteed as part of a track access contract. There is no specific charge for these network storage sidings as separate entities.

Alternatively, rolling stock which is not in service is generally stabled at facilities owned or leased by RUs. Services offered include storing trains, vehicles and rail-borne equipment. These

<sup>79</sup> SEK converted into EUR based on exchange rate on 27 September 2018.

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facilities may be available in yards, terminals, and depots operated by railway undertakings. The use of these facilities is subject to an agreement/contract with the SFO (subject to a charge that they negotiate between themselves and the RB does not get involved as this is a non-regulated area). Just to clarify further on what happens for storage sidings in light maintenance delivery units. The Access Agreement between the SFO and the users of light maintenance delivery units contains a section/ schedule indicating the charge for storage (known as stabling). This agreement must be approved by ORR (i.e. the RB) and we have the powers to request a review of the charge if, for instance, we find it inflated as compared to the charge for the same services in similar facilities. Generally, however, we consider this as a commercial matter between the two parties. There have been no complaints to date.

Most of this information is available either in the IM's Network Statement or published in the relevant contracts.