

**Independent Regulators' Group – Rail**

**IRG–Rail**

**Subgroup Charges for Service Facilities**

**Overview of  
Charges and Charging principles for  
Freight Terminals**

November 2020

Introductory remarks

This overview document covers the following countries whose regulatory bodies are members of IRG-Rail: **Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain and Sweden**. The IRG-Rail working subgroup “Charges for service facilities” created this document to provide an overview of charging practices for freight terminals. This paper aims at identifying the variety of services provided in such terminals, focussing primarily on the charge for handling containers or intermodal transport units. Given the diversity of terminals in each country and the lack of a unanimous definition for freight terminals, this paper approaches the topic from the perspective of the services provided regardless of the actual classification of the terminal as intermodal services.

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## Introduction

### A. Main purpose of the paper

It is well known that charges for the minimum access package have been at the centre of the debate regarding charges borne by freight operators as they are relevant costs items for them. However, there are other services directly related to the provision of the rail freight service whose charges are also substantial within the cost structures of the rail freight operators, and that are often neglected when analysing public policies on freight services.

Due to their inherent characteristics, rail freight services require that certain operations occur within dedicated facilities providing services related to the rail freight service itself. This is the case for the shipment of intermodal transport units<sup>1</sup> (ITUs), for example. In order for a railway undertaking (RU) to transport a container or other ITU, the operator usually requires the provision of several rail-related services that allow for the loading and unloading of the container, the weighting of the cargo or the formation of the train, among others. These services are normally provided within freight terminals or maritime or inland waterway ports. For the reasons explained in the chapter that reviews definitions, given the difficulties with finding a common definition for intermodal freight terminals that applies to every national market, this paper focusses on the services that are provided in freight terminals. In particular, it analyses the intermodal service of the handling of containers, representing the most relevant service for intermodal freight transport.

Charges for the services provided at freight terminals are of great relevance for applicants<sup>2</sup> and they could become a market barrier when prices are set too high and competing modes of transport do not have to bear such costs. According to a report of the Spanish Rail Regulator (CNMC)<sup>3</sup>, under the assumed hypotheses, the costs related to charges for services provided at intermodal freight terminals and maritime ports represent over a third of total cost of the transportation of ITUs by rail. In addition, a market survey in Germany<sup>4</sup> shows that costs for services in service facilities total up to 29% of all infrastructure costs for freight railway undertakings, while a major part of these costs comes from freight terminals (estimated 10% to 15% of all infrastructure costs). Although this percentage is likely to vary considerably according to the underlying context, these services are of great relevance within freight RUs' cost structures and it seems reasonable to study the key elements of the charges for the services provided at freight terminals.

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<sup>1</sup> According to EUROSTAT's 5th edition of Glossary for Transport Statistics, the concept of ITU includes "container, swap body or semi-trailer/goods road motor vehicle suitable for intermodal transport."

<sup>2</sup> It is important to consider that applicants to services from a SFO include other entities than RUs such as a Multimodal Transport Operator (MTO) that acts as Principal/Carrier who enters into the contract of carriage for the entire route of transport.". In the paper tariffs are treated with respect to any entity that acquire capacity from a SFO.

<sup>3</sup> The report (only available in Spanish) can be found at the following link:

[https://www.cnmc.es/sites/default/files/2264652\\_5.pdf](https://www.cnmc.es/sites/default/files/2264652_5.pdf)

<sup>4</sup> The report can be found at the following link:

[https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2019/RailwayMarketAnalysis2019.pdf?\\_\\_blob=publicationFile&v=1https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2019/RailwayMarketAnalysis2019.pdf?](https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2019/RailwayMarketAnalysis2019.pdf?__blob=publicationFile&v=1https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/ReportsPublications/2019/RailwayMarketAnalysis2019.pdf?)

This paper provides an overview of the services provided at freight terminals and an analysis of their charges among IRG-Rail member states. The aim of the paper is to analyse the services provided at freight terminals in each country, focussing on those relating to the handling containers or other ITUs. For the sake of this paper, these services are classified as intermodal services, regardless of the actual classification of the terminal in which they are provided. In addition, the paper analyses more in depth the charge for the handling of containers, which is considered the most representative service for intermodal traffic.

However, this type of traffic, and therefore, the service under analysis, is less relevant for some domestic markets. For instance, in Finland, where there are only a few intermodal rail related terminals (located usually in maritime ports), wagons are usually loaded/unloaded when the goods are moved from one transport mode (e.g. rail) to another (e.g. sea).

Given that this is the first time that IRG-Rail analyses the topic of charges for freight terminals, the approach of the paper aims at providing a descriptive overview of the terminals and the services provided, as well as showing how regulatory bodies (RBs) regulate these activities. This paper also addresses the regulatory framework under Directive 2012/34/EU, establishing a single European railway area (hereafter, the Directive) and the national laws, and analyses the type of costs incurred in the provision of the service for the calculation of unitary costs and charges for the service of handling containers.

However, this paper does not analyse how service facility operators (SFOs) calculate charges in practice, or the amounts and weights of the costs of providing the services. Nevertheless, the paper does include a chapter devoted to how SFOs define and apply the charge for the handling of containers in practice.

## **B. Structure of the paper**

In a first step (chapter II), the paper defines and explains the chosen approach for analysing freight terminals and the type of services provided there, introducing the different concepts involved in the analysis. Chapter III presents a market overview based on the 2019 IRG-Rail Market Monitoring Annual Report. Chapters IV, V, VI, VII, and VIII deal with the analysis of a selection of freight terminals, covering the ownership, operation structures, the different services provided, and a more in depth analysis of the charge for container handling, including a comparison of the level of charges across the selected terminals. Finally, chapters IX and X address the role of the regulatory bodies and a few national case studies in this field.

## **II. Definition of freight terminals and intermodal services**

The Directive lists freight terminals in Annex II as one of the facilities for which RUs shall be granted access to them and to the services provided within. However, although the concept of intermodal freight terminal (or just freight terminal) might be considered easily comprehensible, the Directive

does not provide a definition for it. The Directive does not explain either what type of services are provided at intermodal freight terminals, what elements form this type of facility (ground area, building or equipment), or what differentiates it from a conventional freight terminal. Yet, the Commission implementing regulation (EU) 2015/1100 on the reporting obligations of the Member States in the framework of rail market monitoring provides the following definition of freight terminals in Article 2 (e): “*freight terminal means a place equipped for the transshipment and storage of intermodal transport units, where at least one of the modes of transport is rail*”.

Some definitions for freight terminals can be found in other fields, such as multimodal transport. In this regard, Regulation (EU) No 1315/2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU introduces a definition for freight terminal in its Article 3 (s). According to it, *'freight terminal' means a structure equipped for transshipment between at least two transport modes or between two different rail systems, and for temporary storage of freight, such as ports, inland ports, airports and rail-road terminals*. This definition, however, is applicable to multimodal transport.

In addition, the User Manual of Common Portal for Rail Service Facilities<sup>5</sup>, initiated by the European Commission, includes the following definitions:

- *Freight terminal* = Installations, where services of loading, unloading and transshipment of goods from and to freight trains or wagons are supplied. (Freight terminals are represented in the portal as 4 sub-types: Intermodal terminal, Multifunctional rail terminal, Public siding, Private siding).
- *Intermodal terminal* = Installations for transshipment of standardised loading units (containers, swap bodies, trailers); at least one of the modes must be rail. (Sub-type to Freight terminal).
- *Multifunctional rail terminal* = Facilities for conventional and/or intermodal rail/road transshipment principally open for public use and for all types of cargo. This kind of facility does not only provide transshipment, but also additional services like storage, consignment or road pre-/end-haulage. (Sub-type to Freight terminal).

Similar definitions can be found in the Glossary for transport statistics (European Union / United Nations / ITF / OECD, 5th edition, 2019)<sup>6</sup>. In addition, Annex 1 of the IRG-Rail fourth Annual Market Monitoring Report also includes a definition for intermodal freight terminals, classifying them as “*Facilities in rail freight transport which are specifically built for intermodal transport (container, swap bodies, semitrailer)*”.

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<sup>5</sup> [https://railfacilitiesportal.eu/manuals/RFP%20\(MOVE-C3-2017-198\)\\_D13\\_User%20Manual-EN\\_20190514.pdf](https://railfacilitiesportal.eu/manuals/RFP%20(MOVE-C3-2017-198)_D13_User%20Manual-EN_20190514.pdf)

<sup>6</sup> <https://ec.europa.eu/eurostat/documents/3859598/10013293/KS-GQ-19-004-EN-N.pdf/b89e58d3-72ca-49e0-a353-b4ea0dc8988f>

From these definitions, it can be concluded that freight terminals are dedicated facilities devoted to the loading and unloading of goods, in which other services are usually provided such as train formation, dispatch, reception and temporary stabling of trains, marshalling and storage of the cargo. These facilities, when open to several modes of transport, might be classified as multimodal terminals, and when mainly used for the transshipment of standardised intermodal transport units, could be classified as intermodal freight terminals.

Therefore, there are several concepts and ideas that can be used to classify these facilities. Yet, the lack of definitions within the Directive and the diverse typology of terminals make it difficult to standardise the naming for freight terminals. In addition, for some members there are difficulties with using the term “intermodal freight terminal” in their national market. Indeed, although in some countries, such as France, Germany, and Spain, intermodal freight terminal is the actual classification for facilities that provide the service of the handling of containers and other ITUs, for other countries, there are different classifications that apply to their national market, even though these services exist. In Italy, the RB has defined a freight terminal as a “*set of facilities for freight transport that are interconnected to rail networks and are attributable to the service facilities referred to in Article 13 (2) (b), (c), (d) and (g) of Legislative Decree No 112/2015*”<sup>7</sup>.

Similar issues apply to the use of “*intermodal freight terminal*” with reference to maritime or inland waterway ports, for which the “intermodal” trait is implicit. Consequently, in order to avoid confusion with the naming of these terminals, the paper analyses charges from the point of view of the services that are provided in the terminal, rather than focussing on the type of terminal. Therefore, it uses the term “freight terminal” for every facility which provides services directly related to freight transport, regardless of the official classification that applies in each country.

There are several services provided at freight terminals. The paper studies those services that are provided in the context of the intermodal freight transport, which, for the purpose of this paper, are classified as “intermodal services”. These services, mainly the service of containers’ handling, are more comparable between countries given that they are usually provided in a homogeneous way, using similar means of provision and that they handle standardised transport units, such as Twenty-foot Equivalent Unit (TEU) or Forty-Foot Equivalent Unit (FEU) containers.

Nevertheless, as expressed before, some countries do not provide information on intermodal services, either because this traffic is marginal in their markets or because they do not have access to information. In Finland, for instance, quite often, the goods are stored and transported – also by rail – as product units, e.g. paper rolls or sawed timber. When containers are used – for example in maritime ports – the goods arrive at the terminal as product units in railway wagons, which are then unloaded and the goods loaded by forklifts into containers. The containers are then moved on board of a ship either directly or after some storage time spent on the container field. Therefore, this paper may also

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<sup>7</sup> Limited to the following facilities: freight terminals; marshalling yards and train formation facilities, including shunting facilities; storage sidings; maritime and inland port facilities which are linked to rail activities.

include examples of similar services provided in countries, where the handling of containers is not common.

Apart from these particular cases, the main focus of the analysis is set on the service for the handling of containers. This service is directly related to intermodal traffic, as containers as well as other ITUs are the main recipient for storing cargo in intermodal traffic. The analysis does not delve into the handling of other types of ITUs (e.g. accompanied or unaccompanied combined transport<sup>8</sup>) since containers are easily comparable between countries, given that the service is the same regardless of the commodities loaded within. In addition, the handling of other ITUs might not exist (or have a significant weight) in some countries, such as in Spain, and might, as well, be provided using different means other than the ones used for the handling of containers.

The analysis included in the following chapters is based on a selection of terminals in each country. IRG-Rail produced a questionnaire for which every member provided information about up to three different terminals which are considered to be the most representative of their national market. Therefore, this report relies on the knowledge of IRG-Rail members of their internal market. This way of proceeding tries to circumvent the difficulties with gathering information from the numerous terminals existing in Europe. In addition, given the lack of a common source of information for freight terminals, the process of retrieving relevant data is time consuming and sometimes fruitless. Consequently, this analysis shows the results from a selection of terminals that could be considered as typical examples for each national market. Therefore, the information content herein cannot be extrapolated to the whole European market context and shall be interpreted accordingly within the scope of the paper.

Nevertheless, this approach is not followed in Chapter 0, in which the paper presents an overview of the market of freight terminals. For this analysis, the paper follows the criteria used by the Market Monitoring Annual Reports, presenting the information for 2018 of the market for intermodal freight terminals.

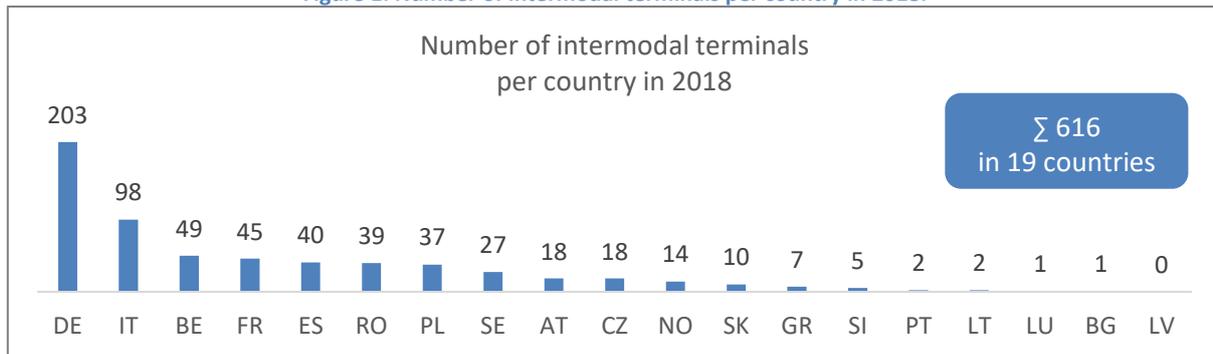
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<sup>8</sup> This type of intermodal traffic involves the so-called rolling highways, used to transport trucks or lorries by rail, accompanied or not by their drivers.

### III. Market overview for freight terminals

Based on the 2019 IRG-Rail Market Monitoring, which was sent out to 31 regulatory bodies, the following market data can be pictured. In total, 616 intermodal freight terminals<sup>9</sup> have been recorded in 19 countries throughout Europe for the reporting year 2018.

Figure 1: Number of intermodal terminals per country in 2018.

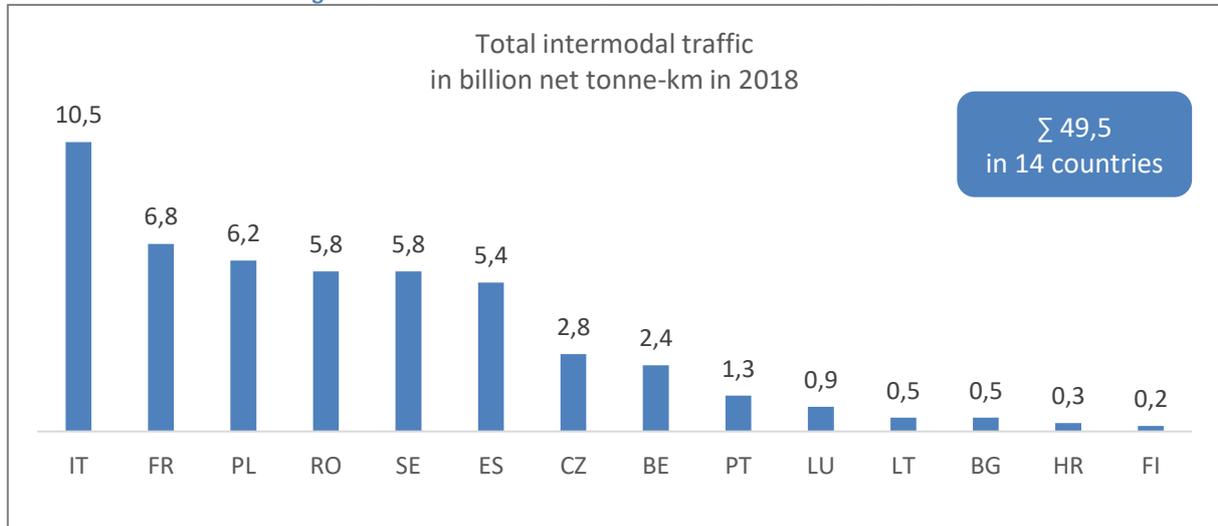


Germany reports the highest number of intermodal terminals, counting over 200. They are located throughout the country, with higher concentration in/next to ports and along the western corridors. However, some of the biggest ones are inland terminals. In Italy, there are nearly 100 intermodal terminals, mainly located in the North or close to the main harbours of the country. Belgian intermodal terminals are predominantly situated by the seaports. Intermodal activity in Spain is carried out in 40 terminals, 31 are inland terminals and nine are located in seaports. The activity is concentrated around the ports of Barcelona, Valencia and Bilbao, and in logistics platforms around Madrid and Zaragoza. In contrast, intermodal freight terminals in Latvia are not service facilities (SF) according to Annex II of the Directive, because they do not and cannot provide services to railway undertakings.

Looking at the total intermodal traffic, nearly 50 billion net tonne-km were counted in 14 countries. Given that several large countries did not report data, this volume can only be indicative. Still, compared with the total freight net tonne-km of 472 bn for all countries this represents a considerable share of more than 10 percent. Taking into account only those countries who provided data for intermodal terminals, the (weighted) average goes up to the significant level of 22 percent. This leads to the conclusion that intermodal traffic is a fundamental part of freight traffic in Europe.

<sup>9</sup> Regulation EU 2015/1100 – Art. 2, point e) (intermodal) ‘freight terminal’ means a place equipped for the transshipment and storage of intermodal transport units, where at least one of the modes of transport is rail. However, various sources provide different definitions of ‘freight terminals’ and ‘intermodal freight terminals’. The definition which is used here aimed to delimit the scope of our analyses and does not bind the Members to follow them in their national legal system.

Figure 2: Total intermodal traffic in billion net tonne-km in 2018



On a country-specific basis, the relation of intermodal and total freight traffic varies. In several countries the intermodal share makes up almost half of the total freight traffic, e.g. in Spain, Portugal or Italy. In a number of countries, like France, Sweden or Belgium the share ranges from 20% to around 30%, whereas in countries like Finland or Lithuania intermodal freight traffic does not play an important role, with shares below 10%. In these countries, freight traffic concentrates on timber, paper, coal and other goods, which are not transported in containers.

Figure 3: Share of intermodal freight traffic compared with total freight traffic per country in 2018.



Outlook: For the ongoing 2020 data collection, additional indicators regarding freight terminals have been added. A first data availability survey showed that numerous countries will be able to provide these data.

<b>Freight traffic / Freight terminals</b>
Total number of freight terminals
Total number of freight terminals owned by the incumbent
Total number of freight terminals on TEN-corridors
Total number of freight terminals in ports

After the provision of these data in November 2020, this market overview will be updated with new insights in the terminal landscape throughout Europe.

#### **IV. Selection of terminals**

As explained, this and the following chapters are based on the responses to the questionnaire produced by IRG-Rail covering a limited number of terminals. For the purpose of showing services provided within freight terminals, each participating RB selected up to three different terminals which can be considered to be the most representative within their respective national market. This reduced number of terminals helps analysing operations of a representative sample of main terminals, instead of analysing all the facilities in Europe. Therefore, the outcomes presented herein, cannot be extrapolated to the whole market, and must be understood as applicable just to the sample of the main terminals. The selection of terminals according to different categories (inland terminals, maritime ports, IFC) in each country allows for a better comparison of the level of charges. Terminals in each country might, differ nevertheless because of different facts. However, by using the approach of classification it allows for a better comparison of results.

The following table includes 41 selected terminals in different European countries, indicating its category (distinguishing between inland terminals, maritime ports, or inland waterways ports), and its location.

**Table 1: List of selected terminals in each country.**

<b>Country</b>	<b>Terminal</b>	<b>Category</b>	<b>Location</b>
<b>Austria</b>	Terminal Wien Sued	Inland terminal	Vienna
<b>Austria</b>	Terminal Enns	Inland waterway port	Enns/Linz
<b>Austria</b>	Hafen Wien	Inland waterway port	Vienna
<b>Belgium</b>	Combinant	Maritime port	Antwerp
<b>Belgium</b>	Terminal Container Athus	Inland terminal	Athus
<b>Belgium</b>	CSP Zeebrugge Terminal Cosco	Maritime port	Bruges

Country	Terminal	Category	Location
Denmark	Høje Taastrup kombiterminal	Inland terminal	Høje Taastrup
Denmark	Taulov kombiterminal	Inland terminal	Taulov
Denmark	Padborg kombiterminal	Inland terminal	Padborg
France	Lille Dourges Conteneurs Terminal	Inland waterway port	Dourges
France	Paris Valenton	Inland terminal	Bonneuil sur Marne
Germany	RTB Rail Terminal Bremerhaven GmbH	Maritime port	Bremerhaven
Germany	CTD - Container Terminal Dortmund GmbH	Inland waterway port	Dortmund
Germany	HUPAC Terminal Singen	Inland terminal	Singen
Italy	Verona Quadrante Europa (Verona QE)	Inland terminal	Verona
Italy	Terminal di Bari Ferruccio	Inland terminal	Bari
Italy	Terminal di Gallarate	Inland terminal	Milano
Lithuania	Vilnius Intermodal Terminal	Inland terminal	Vilnius
Lithuania	Kaunas Intermodal Terminal	Inland terminal	Kaunas
Netherlands	APM Terminals Maasvlakte II	Maritime port	Rotterdam
Netherlands	Hutchison Ports Venlo	Inland waterway port	Venlo
Norway	Oslo Godsterminal Alnabru	Inland terminal	Oslo
Norway	Narvik Godsterminal Fagernes	Inland terminal	Narvik
Norway	Trondheim Godsterminal Brattøra	Inland terminal	Trondheim
Poland	EUROTERMINAL SŁAWKÓW sp. z o.o.	Inland terminal	Sławków
Poland	METRANS RAIL HUB Terminal Gądk	Inland terminal	Gądk
Poland	PKP CARGO TERMINALE sp.z o.o. - Terminale Małaszewicze	Inland terminal	Małaszewicze
Romania	Constanta South Container (DP World Constanta)	Maritime port	Constanta
Romania	Railport Arad	Inland terminal	Curtici, Arad
Romania	Rail Container	Inland terminal	Bacau
Slovakia	RAIL HUB Terminal DUNAJSKA STREDA, Metrans (Danubia)	Inland terminal	Dunajská Streda

Country	Terminal	Category	Location
Slovakia	TKD Dobrá	Inland terminal	Dobrá
Slovakia	Slovenská plavba a prístavy a.s., Bratislava - Prístav	Inland waterway port	Bratislava
Slovenia	KONTEJNERSKITERMINA LJUBLJANA	Inland terminal	Ljubljana
Slovenia	LUKA KOPER	Maritime port	Koper
Slovenia	PREKLADALNAPOSTAJA MARIBORTEZNO	Inland terminal	Maribor
Spain	Hutchison Best Puerto de Barcelona Muelle Sur	Maritime port	Barcelona
Spain	Madrid Abroñigal	Inland terminal	Madrid
Spain	TMZ Zaragoza Corbera-Alta	Inland terminal	Zaragoza
Sweden	Yilport Gävle Containerterminal	Maritime port	Gävle
Sweden	APM Terminals Gothenburg	Maritime port	Gothenburg

Given the difficulties with retrieving information from the terminals listed above, some members were not able to provide information for every question of the questionnaire. Consequently, depending on the concrete analysis, some terminals are excluded, showing only those for which the information is available.

The selection of these terminals followed different criteria that assess its relevance or representativeness within the national market according to the terminal's volume of activity, volume of turnover, capacity, location within an international freight corridor or other particular circumstances that identify the terminal as one of the main facilities in each country<sup>10</sup>. The following heatmap shows the criteria that apply to each terminal as chosen by each IRG-Rail member. The fact that one criterion is not marked in green, does not mean that that it is not relevant for the selected terminal, but rather that the criterion was not considered for representative reasons.

Figure 4: Heatmap of the criteria used by every IRG-Rail member to select terminals.

<sup>10</sup> The selection of these criteria was inspired by the IRG-Rail paper on Common principles on granting exemptions under Art.2 (2) of Commission Implementing Regulation EU 2017/2177.

		Activity	Turnover	Capacity	IFC	Other
Terminal Wien Sued	Austria	█	█	█	█	█
Terminal Enns		█	█	█	█	█
Hafen Wien		█	█	█	█	█
Combinant	Belgium	█	█	█	█	█
Terminal Container Athus		█	█	█	█	█
CSP Zeebrugge Terminal Cosco	Denmark	█	█	█	█	█
Høje Taastrup kombiterminal		█	█	█	█	█
Taulov kombiterminal		█	█	█	█	█
Padborg kombiterminal	France	█	█	█	█	█
Lille Dourges Conteneurs Terminal		█	█	█	█	█
Paris Valenton	Germany	█	█	█	█	█
Rail Terminal Bremerhaven GmbH		█	█	█	█	█
Container Terminal Dortmund GmbH		█	█	█	█	█
HUPAC Terminal Singen	Italy	█	█	█	█	█
Verona Quadrante Europa		█	█	█	█	█
Terminal di Bari Ferruccio		█	█	█	█	█
Terminal di Gallarate	Lithuania	█	█	█	█	█
Vilnius Intermodal Terminal		█	█	█	█	█
Kaunas Intermodal Terminal	Netherlands	█	█	█	█	█
APM Terminals Maasvlakte II		█	█	█	█	█
Hutchison Ports Venlo	Norway	█	█	█	█	█
Oslo Godsterminal Alnabru		█	█	█	█	█
Narvik Godsterminal Fagernes		█	█	█	█	█
Trondheim Godsterminal Brattøra	Poland	█	█	█	█	█
Euroterminal SŁAWKÓW sp. z o.o.		█	█	█	█	█
METRANS RAIL HUB Terminal Gądk		█	█	█	█	█
PKP Cargo Terminale sp.z o.o.	Romania	█	█	█	█	█
Constanta South Container		█	█	█	█	█
Railport Arad		█	█	█	█	█
Rail Container	Slovakia	█	█	█	█	█
RAIL HUB Terminal Dunajska Sreda		█	█	█	█	█
TKD Dobrá	Slovakia	█	█	█	█	█
Slovenská plavba a prístavy a.s.		█	█	█	█	█
		Activity	Turnover	Capacity	IFC	Other

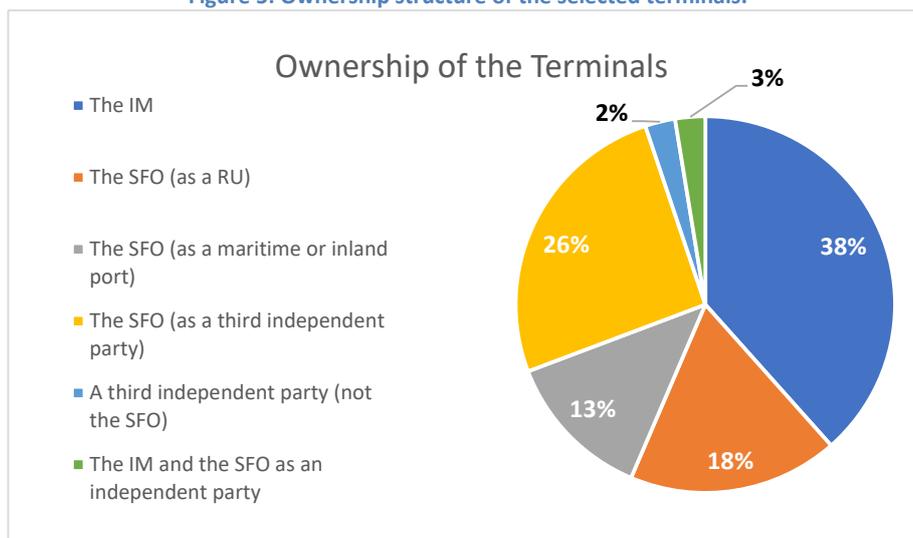
Kontejnerskiterminalljubljana					
Luka Koper	Slovenia				
Prekladalnastajamaribortezno					
Hutchison Best P <sup>o</sup> Barcelona					
Madrid Abroñigal	Spain				
TMZ Zaragoza					
Yilport Gävle Containerterminal					
APM Terminals Gothenburg	Sweden				

## V. Ownership and operation structures of the terminals

This chapter analyses the structure of ownership and operation at the selected terminals. Differences with regard to the entity that owns the terminal might have an impact on the costs borne by the SFO that derive from the payments for the use of the terminal, and thus, an effect on charges. Even where costs are the same, a difference regarding the type of entity may affect prices, (e.g. a public entity that does not charge the full cost of capital [profits]).

Terminals may belong to the Infrastructure Manager (IM), to a service facility operator (SFO), or to a third independent party, such as a public institution or a private entity that does not operate in the market for services provided to RUs. In addition, within the category of SFO, the questionnaire distinguished between SFOs that coincide with a maritime or inland port in which the terminal is located, with a railway undertaking (RU) operating in the freight sector, or with an SFO as an independent party. Information regarding ownership is only available for 39 out of 41 terminals (95% of total sample).

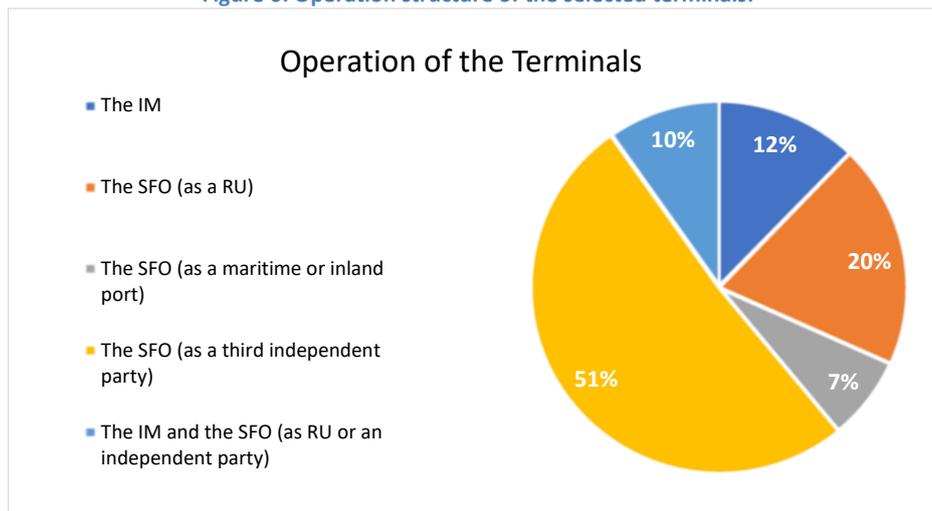
Figure 5: Ownership structure of the selected terminals.



More than a third of the terminals under analysis are owned by the IM, and in one case out of the three terminals under consideration in Germany, the ownership is shared between the IM and the SFO within a 50%/50% Joint Venture. The majority of terminals are owned by SFOs, either as an independent provider, or as an entity identified with an RU or a maritime or inland waterway port. In the sample of terminals under analysis, one terminal, located in France, is owned by an independent entity, the region of Northern France, and other public institutions.

With regard to the operation, there are different types of SFOs. In some cases, it is the IM that directly operates the terminal. In other cases, the SFO can be an RU or a maritime or inland waterway port, or just an independent party that operates the terminal. It is also possible that two or more entities from the ones mentioned before had set up a Joint Venture or collaboratively operate the terminal. The information regarding the operation is available for all 41 selected terminals.

Figure 6: Operation structure of the selected terminals.



In contrast to the ownership structure, independent SFOs operate the highest number of terminals under analysis (51% of them). IMs operate only 4 terminals, which implies that some terminals owned by IMs are, in fact, operated by other parties. In addition, 19% of the terminals are operated by SFOs that either are, or have connection with, RUs. This is the case of the Madrid-Abroñigal Terminal, which belongs to the IM but it is operated by a Joint Venture of two freight RUs (the incumbent and an alternative operator).

According to the collected data, out of the 39 terminals for which information on ownership is available, nearly 62% are operated by the same entity that owns the facility. Therefore, the majority of terminals are not rented out or used by another company. Instead, they are directly operated by the owner.

In eight cases, terminals are located within a complex facility in which there are several SFOs providing the same or different services. This is the case for the selected terminals in Norway, which are owned by the IM, which provides access to the terminal (under certain terms), sets the price for the operators' access to the terminal and sets a number of conditions for how the services have to be provided.

However, the service of the handling of containers is finally provided by different SFOs preapproved by the IM that compete among them within the facility. Therefore, in these terminals both the IM and the SFO share the operation of the terminal.

## **VI. Services provided at freight terminals**

According to Annex II of the Directive, SFOs shall give access to freight terminals and to the services supplied. The lack of a list of basic services that are provided at freight terminals leaves an ample margin for SFOs to describe their list of services, including other additional and ancillary services. Therefore, in addition to the service of handling of containers, SFOs might supply other related services that are necessary for an effective operation of the intermodal rail freight service. This chapter presents the different services that are provided at selected freight terminals.

### **A. Handling of containers**

As mentioned in Chapter II, this service is directly related to intermodal traffic. The service of handling containers is provided in all the selected terminals. This service consists in loading and unloading the cargo (stored in a container) arriving at (or departing from) the terminal and transported by rail (at least in one of the legs of the transport chain). This service also applies to other modes of transport, such as road or water transport.

The use of containers as the unit for transport commodities allows for the use of standardised means and machinery and makes it easier to transport the cargo, given that it does not require specifically dedicated facilities (such as timber or coal terminals).

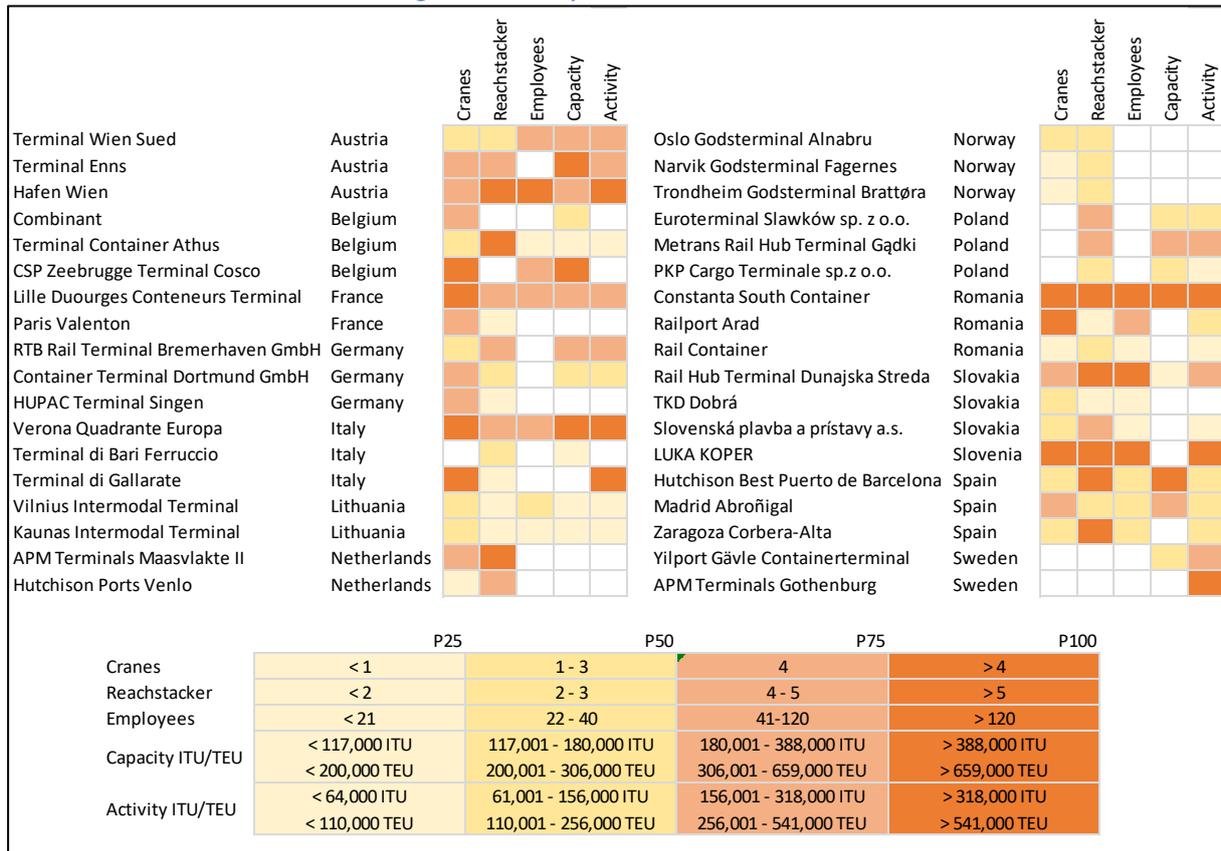
Assets and capacity at each terminal will ultimately determine the cost of providing this service, as larger terminals might bear higher total costs, while being able to handle a larger number of containers. Indeed, capacity can be understood as the size of the terminal, which, in turn is determined by the storing ground area and the number of cranes, other machinery and employees. Although measuring capacity is usually complex, some terminals are able to provide an estimation for their annual capacity. The following heatmap presents a glimpse of the capacity measured in the number ITUs and TEUs<sup>11</sup> that the operator can handle per year, the number of employees, the number of fixed cranes and the

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<sup>11</sup> The measure of ITUs allows for a count of the number of containers. Some terminals estimate capacity in terms of number of TEUs (Twenty-foot Equivalent Units), which is rather a measure of space or volume of the cargo. However, there are containers with other sizes, such as FEUs (Forty-foot Equivalent Units). According to Implementing Regulation (EU) 2018/643 and the 5<sup>th</sup> edition of the Glossary for Transport Statistics, there are metrics in order to account for differences in the size of containers. These equivalences show that, for instance, starting from a 20-foot ISO container that equals 1 TEU, different measures follow: a 40-foot ISO container equals 2 TEU; an ISO container between 20 and 40 feet equals 1.5 TEU; and a container larger than 40 feet equals 2.25 TEU. Therefore, in order to account for the number of containers handled or ITUs, the number of TEUs provided by some terminals shall be converted into number of ITUs. For that purpose, we apply the equivalence of 1 ITU = 1.7 TEU, which is the observed relationship in some terminals.

number of reach stackers (mobile cranes)<sup>12</sup> for each terminal in intervals. The table also shows the volume of activity in ITUs and TEUs handled in the last available year, which, depending on the terminal, varies from 2016 to 2019. As explained before, for those complex facilities where there are more than one operator, the information presented herein is restricted to just the selected provider.

**Figure 7: Heatmap of terminals' indicators.**



## B. Other related services

### 1. Storage of the containers

The storage of containers is an essential service at freight terminals, as many times, just after arriving at the terminal, the cargo is not directly loaded onto another transport mode. Instead, containers might spend some time stored at the facility. For this purpose, terminals have ground areas where these containers are placed until the recipient of the cargo requires the container to be loaded again.

In such cases, the service of handling the containers involves more than one handling operation. The ground area dedicated to the storage of the containers varies between terminals. As explained before,

<sup>12</sup> For Norway, the data for “Cranes” is for the entire terminal, while the data for “Reach stacker” is for only one operator at the terminals.

the size of this area, together with the machinery and employees, determine the capacity or number of containers that the terminal can handle within a year.

This service is usually tied to the need for providing security and surveillance of the cargo that it is stored temporarily. This is the case for the Spanish market, where the basic service explicitly includes these other services for a limited period of time.

## **2. Track access inside terminals**

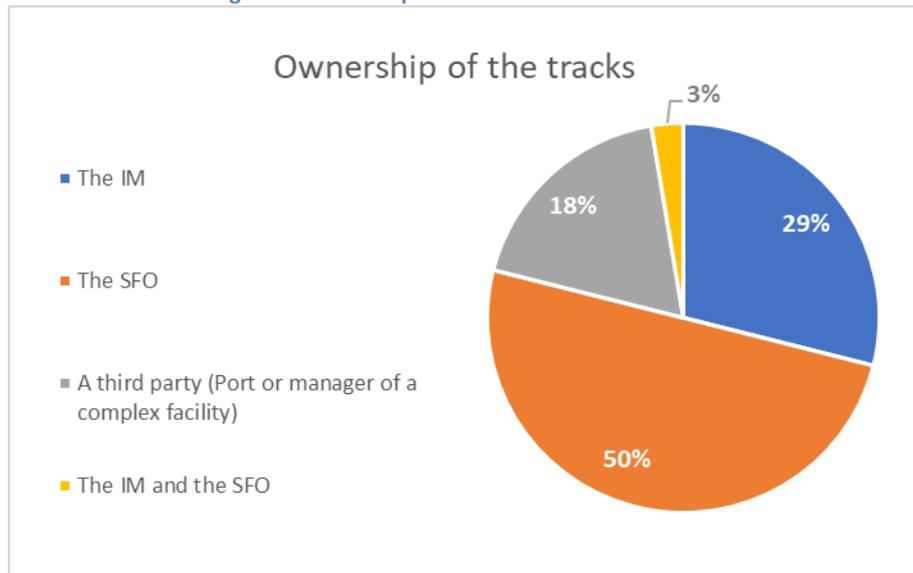
Similar to the analysis of the ownership and operation structures of the terminals, it is also relevant to analyse the ownership and operation of the tracks within the facilities. The tracks are an essential element that connects the facility with the rail network and allows trains to get ultimately to where services are provided. Access to them must be granted to RUs the same way as access to the services themselves. Tracks can be owned by the IM, by the SFO or by a third party, such as the manager of a complex facility where the terminal is located (like a port), or the owner of the terminal as an independent party. The same parties can be identified when it comes to analysing the operation of the tracks. In this case, this party, whether it is the owner or not, is in charge of controlling the train and securing its access to the terminal and its position within.

According to the data from the selected terminals, in the majority of the 38 terminals that reported information, tracks are owned by the SFO. Also, in nearly a third of the terminals, tracks are owned by the IM. These numbers are similar to the data observed for the ownership of the terminals, except for differences in data reporting<sup>13</sup>. Indeed, from the terminals that reported ownership of the IM, in all of them, tracks are also owned by the IM. In addition, in one of the Polish terminals, tracks' ownership is shared between the IM and the SFO. Finally, in seven cases, tracks within terminals are owned by a third party, that either is just the owner of the facility, or the manager of a complex facility where several services are provided by different SFOs. This is the case of the Spanish terminal located within the Port of Barcelona, where the port authority is the owner and manager of the complex facility, and thus the owner of the tracks.

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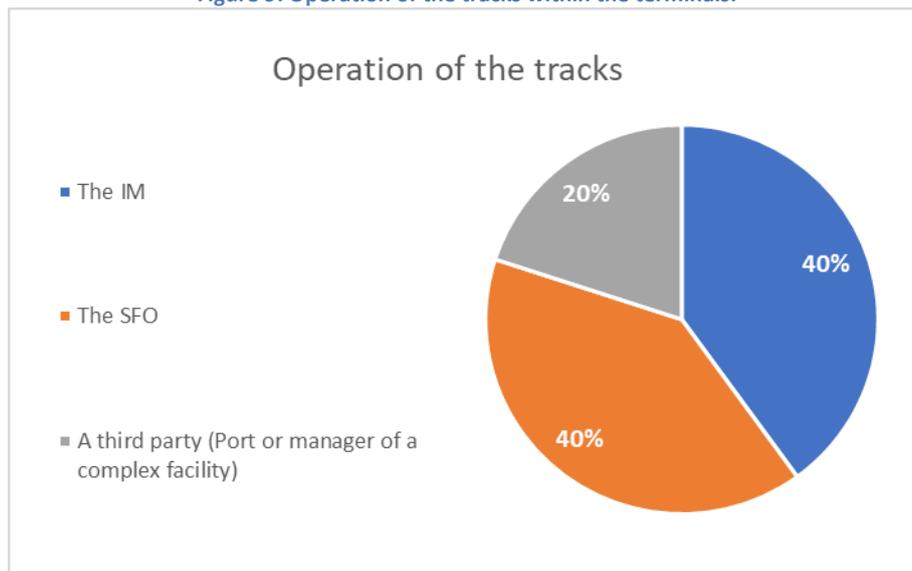
<sup>13</sup> Selected terminals in Italy couldn't provide information on the ownership and operation of the tracks.

Figure 8: Ownership of the tracks within terminals.



The operation of the tracks differs from the ownership structure. This graph shows that, in a larger number of terminals, tracks are operated by the IM. On the contrary, less SFOs operate tracks, in comparison to the number of SFO that own them. Indeed, in some cases, such as the selected terminals in Slovenia, it is the IM that operates tracks within the terminal, even though they belong to the SFO. This might be due to the means and knowledge that IMs have in relation to the provision of track usage and train control.

Figure 9: Operation of the tracks within the terminals.



According to the outcome of the questionnaire completed by IRG-Rail members, there is, however, no information on how this service (access to the tracks) is charged at the selected terminals. However,

in some cases, as in the selected terminals in Spain, it is included within the charge for handling of containers.

### 3. Shunting services

Depending on the terminal, shunting services may be necessary for track access inside the terminal, for example to move the train on a loading track (which usually has no traction current) or to split or rearrange the train. The need for shunting will depend on the actual configuration of the terminal. Shunting can be provided by the RU itself, if it has the adequate personnel and engine resources available at the terminal, or bought from a different entity that provides the service at the terminal, for instance if the operator of the terminal is providing this service.

In this paper, shunting service comprises the provision of splitting, rearranging and unifying trains as well as short train movements within the terminals. It does not cover the marshalling yards and train formation facilities, including shunting facilities as mentioned in Annex II (2)(c) of the Directive.

When shunting services are offered within a terminal, they are charged separately. The only exception is Slovakia, where next to loading and unloading also shunting and short time storage is included.

### 4. Other services

Apart from the services presented before, some terminals also provide other services related to intermodal transport. Usually, these services are charged separately and only requested in certain transports or due to special needs. According to the information provided by the selected terminals, the following services are the most common related services provided at the selected terminals, although the list is not exhaustive and SFOs might provide several other services at the request of the RUs:

- **Container or rolling stock maintenance.** Container maintenance is offered in several terminals, like, for instance Terminal Wien Sued, in Austria; LDCT, in France; Container Terminal Dortmund GmbH, in Germany; or METRANS RAIL HUB Terminal Gądkki, in Poland. Other terminals also include visual inspection, such as the selected terminals in Lithuania; brake test, provided at the Norwegian selected terminals; and even wagon maintenance, which is offered at the RAIL HUB Terminal DUNAJSKA STREDA, in Slovakia.
- **Cooling, heating, and electricity supply.** These services are demanded by RUs transporting particular commodities that require specific temperature or electric current, such as food or chemicals. These supply services are meant to support the containers during the time they are stored at the terminals. They are specifically mentioned in the list of services of the Austrian terminals in Vienna, Vilnius Intermodal Terminal and Kaunas Intermodal Terminal in Lithuania; and the EUROTERMINAL SŁAWKÓW sp. z o.o. or PKP CARGO TERMINALE sp.z o.o. - Terminale Małaszewicze in Poland.

- **Weighting.** The weighting of the containers is specifically mentioned at Terminal Wien Sued (Austria) and at EUROTERMINAL SŁAWKÓW sp. z o.o. or PKP CARGO TERMINALE sp.z o.o. - Terminale Małaszewicze (Poland). However, given that most SFOs have records on the tonnes they handle, it is likely that this service is provided regularly in other terminals.
- **Labelling and photo documentation.** These services are used to seal containers and ensure they are not further opened until their final destination. This service is provided at several terminals, such as the selected terminals in Denmark and Lithuania, or the Dutch terminal in Venlo and terminals in Poland (Sławków and Małaszewicze).
- **Transshipment of good to another container.** This service is only reported for the French terminal Paris Valenton.
- **Fuel supply.** Although this service might be provided in several terminals, the only terminal that includes it in its list of services is the Madrid Abroñigal terminal, in Spain.

## VII. Charge for the handling of containers

The Directive, in its Annex II points (2) to (4), foresees the possibility for SFOs to provide different services that can be classified as basic, additional and ancillary services, for which charges follow different regulations. In the context of freight terminals, cost estimation and documentation, and thus charging schemes, become a complex task, as there are several factors that shall be taken into account.

As shown before, some terminals provide different services other than the handling of containers. This implies that SFOs have to document costs separated from other activities (either regulated or not regulated) and then split and allocate these costs according to the different activities and services provided. In turn, the cost of providing a service is directly related to the capacity or size of the terminal and the means of provision (machinery, employees or number of cranes, among others). In addition, actual or forecasted volume of activity determines the unitary cost of handling a single ITU or container. Finally, the fact that some terminals provide the service of handling containers bundled together with other services, such as storage of the cargo, introduces more complexity regarding the estimation of unitary costs.

This chapter analyses the economic principles that apply to the charge of handling containers, its definition and core elements (such as the costs incurred or its charging units), and other practical issues involved in provision.

### A. Economic principles

The Directive, in its Article 31 (7) and (8), sets out price regulation for basic and additional or ancillary services. Charges for basic services shall not exceed the cost of providing the service plus a reasonable

profit. The same regulation applies to additional and ancillary services if they are offered just by one supplier. Otherwise, no price regulation applies, and charges can be freely determined by SFOs.

Basic services are those provided at the service facilities listed in Annex II (2), although actual services are not explicitly mentioned. On the other hand, additional and ancillary services might comprise the services listed in Annex II (3) and (4). According to Article 4 (d) of Regulation (EU) 2017/2177 on access to service facilities and rail related services (IR (EU) 2017/2177), SFOs shall describe all rail-related services, which are supplied in the facility, and their type (basic, additional or ancillary). This provision does not imply that SFOs can freely determine whether the service is either basic, additional or ancillary. On the contrary, SFOs must follow the Directive and national laws when describing and classifying services, and they shall motivate their choice. Indeed, Article 6 of IR (EU) 2017/2177 foresees that the RB may require operators of service facilities to justify why they designated a rail-related service as basic, additional or ancillary.

The service of handling containers, being one of the main services at freight terminals, is usually classified as a basic service according to the above mentioned regulation. However, this is not the case in France, where the national law qualifies this service as an additional service.

## **B. Reasonable profit**

For basic services, SFOs must calculate charges following the regulation of cost orientation plus a reasonable profit. The concept of reasonable profit is described in Article 3 (17) of the Directive as the *“rate of return on own capital that takes account of the risk, including that to the revenue, or the absence of such risk, incurred by the operator of the service facility and is in line with the average rate for the sector concerned in recent years”*. In the context of freight terminals, this rate is applicable to the capital invested in the terminal for the provision of the service (for example, in the case of the handling service, the surface of the multimodal platform and the machinery used in the provision of the handling of containers).

According to chapter V, around a third of all selected terminals are not operated by the same entity that owns the terminals. In these cases, it is interesting to look at what investments are included in the regulatory asset base. Apart from the investment that the operator might have done with regard to cranes, reach stackers and other assets, the fact that it is not the owner of the terminal itself, might prevent the operator from applying a reasonable profit over the assets that form the facility. Therefore, it is relevant to analyse the profit that is charged by the owner of the facility through the rental agreement, as differences regarding the rate of return might have a direct impact on final charges for the service.

In most cases, this kind of agreements between the SFO and the owner of the terminal by which the former operates the facility and pays a rent in return, are usually signed for a large period of time. Therefore, these agreements impose a long-term commitment on the operators that run the terminal and pay the rent during the agreed period. In Spain, the RB interprets that the SFO needs to ensure a flow of capital to pay for the rent every year. The operator, by entering in this contract, incurs a great risk to the revenue (as expressed by the Directive), and might not cover all operating costs if demand

falls short. Therefore, this long-term commitment might also be understood as an investment, and thus, eligible for the purpose of remunerating capital.

In Denmark, the RB interprets that, for SFOs which own the terminal, the equity is higher than the equity for SFOs which rent it. This fact results in discrimination in the estimation of a reasonable profit for different SFOs according to ownership or rent. As the Danish RB has no information about equity for the SFOs, the Danish RB uses a profit margin for the transport industry estimated by the Danish national statistics agency. This profit margin in percent is multiplied by the SFO revenue to calculate a reasonable profit (sum). This sum of reasonable profit is then distributed to each of the services to end up with a reasonable profit for each service. The charge for each service must be less or equal to the unit cost plus the reasonable profit for this service.

## **C. Definition and core elements of the charge**

### **1. How the charge relates to the service**

According to the nature of the service, the handling of containers is a core service regarding intermodal transport and it is usually provided under similar standards. However, the way it is provided and how it is described differs from one terminal to another. Indeed, the charge for handling containers is shaped by the activities that are included within the service, the means with which they are provided, the charging and billing units used to calculate unitary costs and prices, and whether it is bundled with other services.

In this regard, the outcome of the questionnaire shows that only 16 terminals clearly specify on their website or in their descriptive sheet in the IM's network statement, the definition of the service, and thus, what it is comprised by the charge. Indeed, at a country level, in 17 countries, there is no common definition for handling containers and, therefore, the service may vary between terminals. Only in Denmark and Spain, a common definition exists, set in the national law or by the RB<sup>14</sup>.

However, almost all terminals have a list of services and corresponding charges. Depending on the extension of the service of handling of containers, the charge will cover other related services or foresee several handling operations.

### **2. Types of costs and their allocation to the service**

When calculating charges for the service of handling of containers, SFOs have to take into account all the activities that comprise the service, thus identifying all the assets used and all other costs incurred in its provision. This process implies separating them from all other assets and costs that may pertain to other services and activities provided by the SFO at the terminal, as charges shall reflect costs associated to the provision of each service.

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<sup>14</sup> In Denmark the definition is provided by the statutory order on freight terminals and in Spain the RB described the service (for more information, see Chapter X.A.1.)

Some costs may not be directly linked to the activities and services provided at the terminal, such as general and administrative costs, taxes, etc. These indirect costs, when the SFO provides several different services, shall be distributed between each one following different criteria, such as share of turnover or total costs of each service, among others.

Other costs are directly linked to the activities and services provided at the terminal. Nonetheless, when SFOs provide different services apart from the handling of containers, they might distinguish between direct costs of each service and common or shared costs. In the case of the service under analysis, direct costs are associated only to the provision of the service of handling containers and are easily allocated to the service in an objective and feasible manner. They include the costs of all the means and machinery involved (e.g., depreciation and amortization of cranes), wages and payrolls of employees carrying these activities, energy and supplies, etc., when they are exclusively used in handling operations. On the other hand, common costs are shared by different services and must be allocated to each one by means of specific cost drivers. This is the case for the tracks and the ground area, for which costs related to maintenance, depreciation, etc., shall be split between different services, such as storage, container maintenance or shunting, among others.

Finally, SFOs might identify variable costs such as energy supply that increase with the number of handling operations; and fixed costs, which do not vary in the short-term, such as depreciation of cranes and reach stackers. For fixed costs, unitary costs decrease with the volume of activity. In this regard, depending on the capacity and demand of the terminal, the charge for the handling of containers is decreasing with activity and will reach its minimum when demand equals maximum capacity<sup>15</sup>.

### **3. Charging and billing units**

Once all the costs have been properly accounted for and allocated to the services, SFOs have to divide them by a charging unit in order to calculate unitary costs. For the service of handling containers, these costs are usually divided by the number of ITUs, number of TEUs, number of tonnes, or number of handling operations. These units are also used as the billing or pricing unit, which implies that the charge is expressed as the price for handling one container, one TEU, or one tonne, or for one handling operation.

The majority of terminals (24 out of 30 that reported information) express their charges as a price per ITU or container handled. This is the case for the terminals in Austria, Belgium, France, Germany, Italy, Lithuania, Poland, Romania, Slovenia, Spain and Sweden. Only the selected terminals in Norway use the TEU unit as opposed to the number of ITUs or containers. As explained before<sup>16</sup>, TEU is a measure of space or volume of the cargo, and it does not reflect the number of containers of different sizes that are handled. For instance, a 40-foot ISO container equals 2 TEUs. Therefore, if the SFO uses the number

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<sup>15</sup> For a practical example, please see Spanish national case for charge calculation at Intermodal terminals owned and operated by the IM developed on chapter X.A.2.

<sup>16</sup> see footnote 11

of TEUs as the charging unit, that container would pay twice the price of a 20-foot ISO container (1 TEU).

There are examples of different billing units. One of the French terminals (Paris Valenton) and the selected terminals in Slovakia express their charges as a price per handling operation or manipulation. This way of charging might be different from a charge expressed as per ITU, depending on what is comprised by a handling operation. For instance, if a handling operation is defined just as one movement (lifting a container), the same container would be charged several times if it needs to be stored at the terminal and ultimately loaded again into another transport. However, if the handling operation also includes further manipulations after it arrives in the terminal, then the charge would be the same as a charge per ITUs.

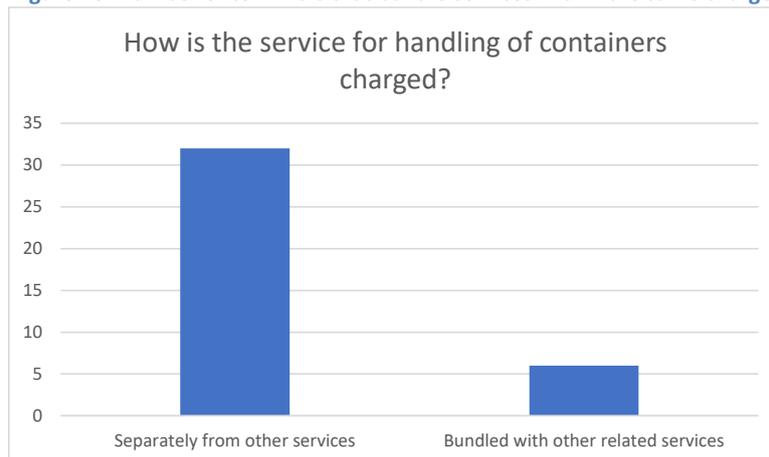
All the terminals set their prices in their national currencies. However, selected terminals in Romania, in addition to their national currency, also set prices in US Dollars and in Euros.

#### D. Bundled services at the terminals

Given that the service of handling containers is closely related to the provision of other related services, such as storage of the cargo, the charge for the service may include the provision of other services that are bundled together.

In the majority of the cases<sup>17</sup>, the service of handling containers is provided separately from other services. However, in some cases, the charge comprises also the provision of more services.

Figure 10: Number of terminals that bundle services within the same charge.



Only a few terminals offer bundled services. In Spain, as explained later<sup>18</sup>, by definition of the service of handling containers, it includes up to two days of free storage of the cargo, access control, and security and surveillance. It is also the case for the selected terminals in Lithuania, in which the charge

<sup>17</sup> Information is available for 38 out of 41 selected terminals.

<sup>18</sup> See chapter X.A.1.

for the handling containers also includes their storage up to thirty days. Another example of bundled services occurs in the Slovakian selected terminal of TKD Dobrá, where the charge also includes short time storage, including delivery, removal and shunting.

The fact that services are bundled in the mentioned cases, entails that charges are calculated accounting for the underlying costs related to all the activities. This scenario might make charges easier to estimate, as common costs do not have to be allocated on the grounds of cost drivers. However, by bundling services, requests from RUs might not match with all the services included in the charge.

### **E. Other modes of transport**

Intermodal services are provided, although not exclusively, in the context of intermodal chains of transport where more than one mode of transport participates. According to Table 1, nine facilities among the selected main terminals are located within maritime ports. In addition, five more terminals are located next to an inland waterway port. For these terminals, water transport is one of the ways for containers to arrive at the facility. Furthermore, road transport also accesses to freight terminals.

In this context, operators of freight terminals might impose different charges depending on the mode of transport that request the service. Although the Directive regulates access and charges in the context of the rail sector, and provided that there might be other regulation for maritime or road transport, the questionnaire requested information regarding charge differentiation for other modes of transport. Only four terminals specifically mention different charges for other modes of transport.

Different charges for each mode of transport can be due to differences in the way containers are handled. In this regard, SFOs might use different machinery and means of provision depending on the mode accessing the terminal. Therefore, different assets might be involved if the container is loaded or unloaded from a vessel or from a train. This is the case of one of the selected terminals in Slovakia (Slovenská plavba a prístavy a.s., Bratislava - Prístav), where, for inland waterway transport, an extra fee is charged for handling of the container due to the transfer of the container from the handling area under the crane to the storage area and vice versa.

However, for the majority of terminals, the charge does not vary depending on the mode of transport that requests the handling of its cargo. Therefore, this is not a usual practice among the selected terminals.

### **F. Charge modulation**

Even when charges are the same for road, rail and water transport, SFOs might still differentiate charges for the handling of containers. As mentioned above, Article 31 (7) of the Directive caps the charge at the level of the cost of provision. Regardless of charges being at the level of the cost for providing handling services or below, SFOs might offer discounts for the handling of a large number of containers or depending on their weight or size. In addition, charge modulation might be a useful tool to incentivise an efficient use of capacity at the terminal, thus fostering a given type of traffic or penalising inefficient practices.

Regarding this issue, IRG-Rail members provided information on charge modulation for 32 terminals. Half of them establish different charges according to different criteria. One of the terminals in Germany (RTB Rail Terminal Bremerhaven GmbH) charges twice the price if the container is not an ISO unit, meaning that it does not have the standard measures. The same occurs at the Slovenian terminal LUKA KOPER, that includes a surcharge for non-standard units. In other cases, some terminals charge more for 40-foot units (FEUs) than for 20-foot units (TEUs), such as the terminal Rail Container (Bacau) in Romania and the Swedish terminal APM Terminals Gothenburg. In addition, at the Spanish terminal Hutchinson Best Puerto de Barcelona, although their official tariffs do not distinguish between containers' size or weight, average prices show that discounts are offered for smaller and empty containers. Terminal Constanta South Container (DP World Constanta) uses a more elaborated criteria, charging different rates depending on the characteristics of the container or cargo (size, weight, degree of danger, etc.). Finally, in France, additional charges may also be applied for handling and storing dangerous goods.

In conclusion, some terminals modulate charges in practice according to the size, weight or other characteristics of the containers that are to be handled. Such differentiation has to be justified to avoid a discriminatory and unfair treatment. For example, the differentiation might be justified by a difference in the cost of provision of the service. Indeed, it is possible to levy a reduced charge on smaller containers if the SFO can justify differences in the cost of provision regarding, for instance, the size of the container. For example, these reduced charges would be justified if differences in the space that smaller containers occupy at the storing area do actually yield significant differences in costs.

## VIII. Charge comparison

Analysing charges among terminals is not simple. According to the previous chapters, charges might differ depending on several circumstances, such as the capacity of the terminal, the size of the container, the mode of transport or the commodity that is transported. In addition, even within the same terminal, there can be different tariffs covering several services (including storage, for instance). Consequently, making a comparable analysis requires a more elaborated research that accounts for differences in the service and offers a comparable charge among terminals.

This chapter shows charges as reported by IRG-Rail members in the following figure. The information provided herein shows basic tariffs as reported in the questionnaire covering the activities for the service of handling containers that is described by each SFO<sup>19</sup> and converted into euros. These tariffs do not include extra services if they are not explicitly included in the main service. The data refers to the latest available year, which varies from 2016 to 2019. Not all terminals provided information on

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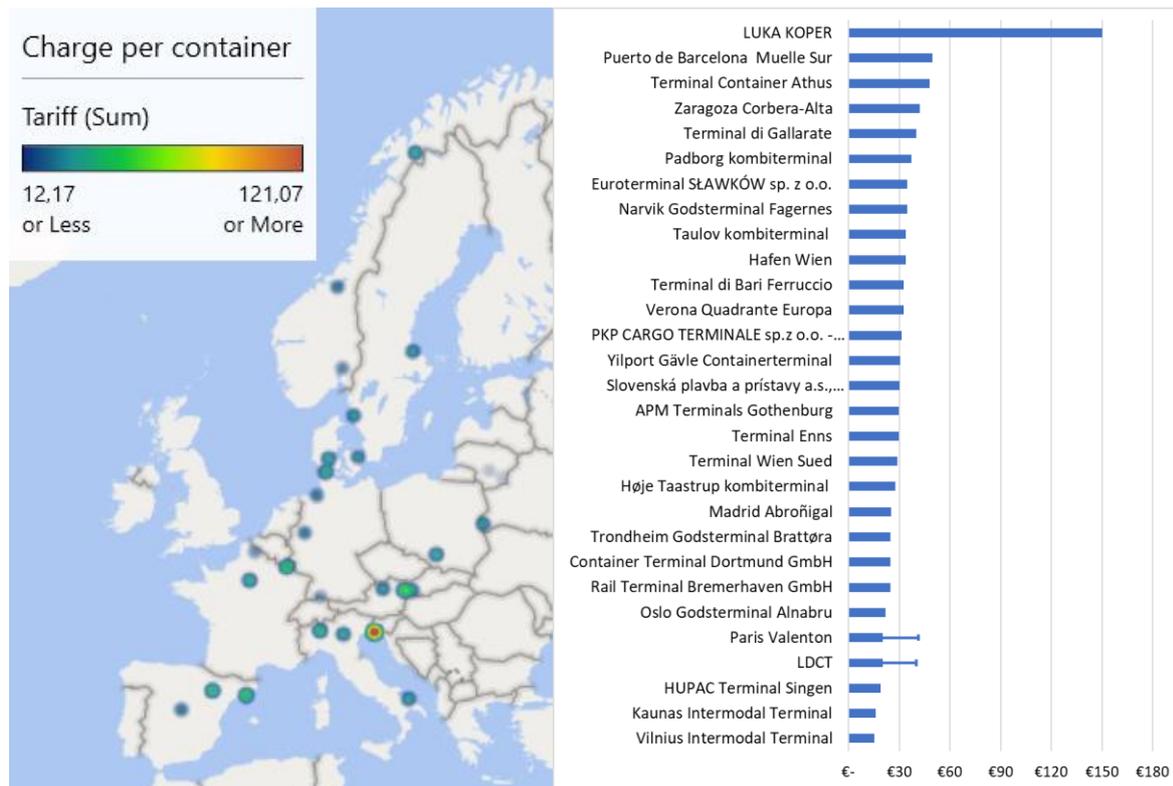
<sup>19</sup> There are a couple of particularities regarding the selected terminals in France:

**Paris Valenton:** Tariff range for handling services may depend on the service provided ("transport service" ie. direct handling from the train to the truck and vice versa or "terminalistic service" ie. handling from/to a stockage area located on the terminal), on the candidate's annual volume of handling or on the potential ancillary services which may be provided together with the handling service.

**LDCT:** Tariff range for handling services depends on the transport mode involved (rail or waterway), on the candidate's annual volume of handling or on whether candidates have a transport contract with the operator.

the level of charges, so the figure only displays information for those whose charges that are public and available. Charges shown in the graph below are expressed as € per ITU, container or handling operation, with the only exception of the Norwegian terminals, which establish tariffs as per TEU, meaning that actual size of the container.

Figure 11: Charge comparison among selected terminals.



Most of the terminals set charges within the range of 15€ to 50€, except for the Slovenian Terminal LUKA KOPER, whose charge is clearly above the rest. The average charge among the selected terminal is 34.55€. However, as expressed before, these charges cannot be simply compared without a proper analysis of what is included in the charge. For instance, the Terminal located within the Port of Barcelona has one of the highest charges, but it includes also the storage of the container for up to two days, access control and security. In addition, charges might be higher or lower depending on the actual volume of activity of each terminal, which ultimately determines unitary costs. Finally, charges shown in the previous figure are just the basic tariff, and do not account for possible discounts offered by the SFO.

Given the limited number of terminals in the sample it is not possible to analyse whether charges are significantly different depending on the type of terminal. Although the highest charges are set in two terminals located within maritime ports, the data does not suggest that charges are higher for this type of terminals, as other ports set charges closer to the lower boundary of the sample. It is not possible also to reach conclusion on whether charges differ depending on who owns the terminal. However, the data shows that for those selected terminals that are owned by the IM, the average charge is 26.31€, while for those that are owned by SFOs, the average charge is 44.19€ (although it is reduced

up to 34.57 when LUKA KOPER is removed from the sample). Nevertheless, in order to carry out a more elaborate and robust analysis on this topic, more terminals should be added to the sample and differences between countries regarding purchasing power should be also accounted for.

## IX. The role of the Regulatory body

Generally, in all countries the regulatory body (RB) has the competence to regulate the access to the services offered in freight terminals and their respective charges. In Slovenia, the RB only has power to regulate charges for services in freight terminals that are related to railway services, like track access, shunting or lifting of containers. Other services like warehousing are not subject of the railway regulation.

In six countries, namely Croatia, Denmark, France, Germany, Italy and Slovakia, the RB regulates the charges for services in freight terminals ex-ante as well as ex-post, while in twelve countries there is only ex-post regulation. If an operator of a freight terminal in Germany plans to change the charges, the new charges have to be audited by the RB within six weeks –The RB must be informed about the planned change of the charges, otherwise the new charges cannot be applied. In Italy, the RB has introduced ex-ante regulation measures<sup>20</sup> for services in freight terminals that are only supplied by one provider or otherwise provided under limited competitive conditions. These measures include cost-orientation criteria and specific regulatory accounting requirements to ensure competitive prices. In Slovakia, the ex-ante regulation covers the examination of costs and the approval of charges for stops at marshalling yards and freight terminals operated by the IM. The following table shows which services in freight terminals are regulated ex-ante.

**Table 2. Ex-ante regulation of services within freight terminals.**

	Handling of containers	Handling of other ITU	Loading other cargo (e.g. coal, timber)	Marshalling
Croatia	✘	✘	✘	✓ <sup>21</sup>
Denmark	✓	✓	✓	✓
France	✓	✓	✓	✓
Germany	✓	✓	✓	✓
Italy	✓	✓	✓	✓
Slovakia	✘	✘	✘	✓

The table above shows that in four countries - Denmark, France, Germany and Italy -, the handling of containers or other intermodal transport units (ITU) and the loading of other cargo are covered by the ex-ante regulation. The marshalling services are part of the ex-ante regulation in all of these countries.

<sup>20</sup> [https://www.autorita-trasporti.it/wp-content/uploads/2015/12/Determination-of-charges-for-access-and-use-of-railway-infrastructure\\_ARTs-Regulatory-measures1.pdf](https://www.autorita-trasporti.it/wp-content/uploads/2015/12/Determination-of-charges-for-access-and-use-of-railway-infrastructure_ARTs-Regulatory-measures1.pdf).

<sup>21</sup> Croatia: This refers to wagons, not containers.

When regulating “Handling of Containers” ex-ante, the RB has to approve the methodology, the tariffs, audit the allocated costs, calculate or approve the WACC or has to perform other tasks.

**Table 3. Tasks for ex-ante regulation of the handling of containers**

	Approve the methodology	Approve tariffs	Audit allocated costs	Calculate/ audit WACC	Other
Denmark	✓	✓	✓	✗	
Germany	✓	✓	✓	✓	✓ <sup>22</sup>
Slovenia	✗	✗	✓	✗	

For the countries referred to in table 3 the RB is auditing the allocated costs. In three countries, the RB has to approve the methodology for calculating the charges and the tariffs. In Finland, the RB may perform ex-ante regulation in some limited cases, concerning mainly the methodology; no such cases have emerged so far.

In all countries, the RB has the mandate to start an investigation ex-officio as well as after receiving a complaint. In Denmark, a complaint has to be sent within four weeks after the charges for freight terminals are published. Table 4 shows which services within the freight terminals are covered by the ex-post regulation, using the categories “Handling of containers”, “Handling of other ITU”, “Loading of other cargo” and “Marshalling”.

**Table 4. Ex-post regulation of services within freight terminals.**

	Handling of containers	Handling of other ITU	Loading of other cargo (e.g. coal, timber)	Marshalling
Austria	✓	✓	✓	✓ <sup>23</sup>
Belgium	✓	✓	✓	✓
Croatia	✗	✗	✗	✓ <sup>24</sup>
Denmark	✗	✗	✗	✗
Finland	✓	✓	✓	✓
France	✓	✓	✓	✓
Germany	✓	✓	✓	✓
Italy	✓	✓	✓	✓

<sup>22</sup> Germany: The RB can request all types of data, if they are necessary to evaluate the level and the structure of charges. Which data really are requested depends on the individual case.

<sup>23</sup> Austria: As within the service facility or when single wagons are transported to or from the SF.

<sup>24</sup> Croatia: Just wagons, not containers.

	Handling of containers	Handling of other ITU	Loading of other cargo (e.g. coal, timber)	Marshalling
Latvia <sup>25</sup>	✓	✓	✓	✓
Lithuania	✓	✓ <sup>26</sup>	✗ <sup>27</sup>	✗ <sup>28</sup>
Luxembourg	✗	✗	✗	✓
Netherlands	✓	✓	✓	✓
Norway	✓	✓	✓	✓
Poland	✓	✓	✓	✓ <sup>29</sup>
Romania	✗	✗	✗	✓
Slovakia	✓	✓	✓	✓
Slovenia	✗	✗	✗	✓
Spain	✓	✓	✓	✓
Sweden <sup>30</sup>	✓	✓	✓	✓

While in 13 countries, “Handling of containers” and “Handling of other ITUs” are covered by ex-post regulation, “Loading of other goods” is covered by ex-post regulation in twelve countries. 16 countries regulate the marshalling within freight terminals ex-post, while two countries do not.

In order to carry out deep and sound investigations, the RB has to request data from the SFO. The following table shows which data the RB may request from the SFO, using the categories “Financial statements”, “Cost estimation”, “Volume of activity”, “WACC calculation” and “Other”, like the Methodology for calculating the charges for activity forecasts.

**Table 5. Documents requested by the RB for investigation of charges.**

	Financial statements	Cost estimations	Volume of activity	WACC calculation	Other
Austria	✓	✓	✓	✓	
Croatia <sup>31</sup>	✓	✓	✓	✓	✓
Denmark	✓	✓	✓	✗ <sup>32</sup>	✓ <sup>33</sup>

<sup>25</sup> Latvia: The Latvian RB has the competence to regulate these services. At the moment there are no freight terminals providing these services in Latvia.

<sup>26</sup> Lithuania: Semi-trailer, swap-body, but the charges for the handling of these ITU are the same as for containers.

<sup>27</sup> Lithuania: The charges does not differ from the type of cargo.

<sup>28</sup> Lithuania: So far, such a service has not been excluded, but if it had been excluded, the prices for its provision would have been regulated.

<sup>29</sup> Poland: If it is not included in the cost of the charging or service.

<sup>30</sup> Sweden: We have the mandate, but we have not used it in practice. Cf. Reply to Q4.

<sup>31</sup> Croatia: We can ask for any data that we estimate to help us with the analysis.

<sup>32</sup> Denmark: We have a cost plus regulation (please see explanation in E-mail).

<sup>33</sup> Denmark: A specification/explanation of allocation keys for the ABC calculation of costs for each service at the intermodal terminals.

	Financial statements	Cost estimations	Volume of activity	WACC calculation	Other
Finland <sup>34</sup>	✓	✓	✓	✓	✓
France <sup>35</sup>	✓	✓	✓	✓	
Germany <sup>36</sup>	✓	✓	✓	✓	✓
Italy	✓	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓	
Norway <sup>37</sup>	✓	✓	✓	✓	✓
Poland <sup>38</sup>	✓	✓	✓	✗	✓
Romania <sup>39</sup>	✓	✓	✓	✗	
Slovakia	✓	✓	✓	✗	
Slovenia <sup>40</sup>	✓	✓	✓	✗	✓
Spain <sup>41</sup>	✓	✓	✓	✗	✓

Table 5 shows which documents the RB requests when carrying out an investigation on charges. A number of countries like Latvia, Lithuania, Luxembourg or Sweden have answered that they have not carried out any investigation yet on charges for freight terminals. Therefore, they could not explain which documents are requested. Furthermore, several countries like Finland or France have answered that the required documents may vary from case to case and will depend on the actual need of the case.

In 15 countries, the RB requests cost estimation or the volume of activity when investigating charges, while in 14 countries, the RB request the financial statement. The WACC calculation is asked for by nine RB, while six RBs do not ask for them. One example is Romania, where the reasonable profit is set by law at 3%, and, therefore, a WACC-calculation cannot be requested. In ten countries, the RB request further documents. In Spain, for example, the RB is requesting a forecast on the activity of the freight terminal while in Denmark, Poland and Slovenia the RB is asking for the methodology behind calculating the charges (allocation keys, e.g.).

## X. National cases

In the last years, several RBs have carried out investigations on charges for freight terminals. Below some interesting cases are listed.

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<sup>34</sup> Finland: Can be requested, depending on case.

<sup>35</sup> France: All of the following documents may be required in case of control or claim.

<sup>36</sup> Germany: The RB can request all types of data, if they are necessary to evaluate the level and the structure of charges. Which data really are requested depends on the individual case.

<sup>37</sup> Norway: Any document that is considered necessary and relevant, for instance internal accounts, calculations, plans, etc.

<sup>38</sup> Poland: Description of the methodology for determination of rates.

<sup>39</sup> Romania: In Romania the reasonable profit is set at 3% (by law).

<sup>40</sup> Slovenia: Methodology.

<sup>41</sup> Spain: Activity forecast.

## **A. Decisions by CNMC (Spanish RB)**

The Spanish RB (CNMC) has ample experience in dealing with tariffs at freight terminals and, particularly, with charges for the handling of containers. Before December 2018, the Spanish Rail Act contemplated the competence of the RB to ex-ante review charges for additional services at service facilities. At that time, the law used to classify the service for the handling of ITUs as an additional service, contrary to the classification set out by Annex II of Directive. Therefore, CNMC used to analyse proposals for tariffs presented by intermodal freight terminals in order to ensure that they comply with price regulation<sup>42</sup>. On the grounds of this competence, CNMC reviewed charges for both individual private SFOs and intermodal freight terminals owned and managed by the IM.

In December 2018 the Rail Act was amended. As a result, the Spanish law directly transposed the regulation for basic, additional and ancillary services. In addition, the competence to ex-ante review charges by the RB was removed from the law. Consequently, SFOs can approve their tariffs without previously submitting them to the regulator. Nonetheless, the RB may ex-post review charges for services if faced against a complaint or has knowledge of an incorrect assessment.

This subchapter includes two different cases analysed by the Spanish regulator. The first one refers to a decision in which CNMC provided a definition for the service itself, dealing with how the service should be understood and what is comprised within the basic service. The second decision deals with the review of the tariffs for all the intermodal freight terminals owned and directly managed by the infrastructure manager (ADIF), for which the regulator assessed the underlying cost model.

### **1. Definition of the services included in the charge**

In 2016, CNMC began a consultation procedure with operators of Freight Terminals. The objective of such consultation was to get to know how services were provided at these facilities. At that time, the Spanish Rail Act had recently introduced the competence of the RB to ex-ante regulate tariffs for these services. Therefore, CNMC gathered information regarding charges and how the service was usually provided by the different SFOs.

After analysing the information provided by SFOs, CNMC identified several common traits in the way the service for the handling of ITUs was provided, such as the number of movements per container, the existence of a period for storing the container at the terminals and other services such as train reception or security among others that were included in the tariff for the service. The consultation procedure also showed differences regarding the time span for free storage and the number of movements of the containers included in the service.

For consistency purposes and with the aim of standardizing the elements that shall be included in the basic service of the handling of ITUs, CNMC came up with a definition for the service that should be applied by all the operators of intermodal freight terminals. The regulator considered it necessary to

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<sup>42</sup> The Spanish Rail Act used to classify the service of handling of ITUs as an additional service, for which the established price regulation was cost orientation plus a reasonable profit.

establish a common definition for this service that comprises a minimum set of activities as the basis for the minimum service provided in every terminal. However, SFOs were allowed to include further elements in their list of tariffs. This definition comprised the following activities:

- The physical handling of the ITU by crane (either fixed or mobile), understood as the loading and unloading of the container.
- Storage of the ITU at the terminal of up to 2 days.
- Control of access to the terminal
- Security and surveillance.

Therefore, the provision of the service shall include all the activities mentioned above. CNMC provided this definition so every SFO allocates the same cost categories to the service, setting aside other costs related to the provision of other services at the terminal. This definition, including the two days of free storage, was the most common way of providing the service among SFOs. The inclusion of storage, control of access and security and surveillance were considered as complementary and necessary services to the main activity of handling of ITUs.

After the publication of this decision, following reviews for tariffs of the service of handling of ITUs were analysed in accordance with the official definition. Therefore, SFOs presented their tariffs using the criterion stated by CNMC for the basic service. Although the regulator no longer has the competence to ex-ante review tariffs, this definition still applies to all intermodal freight terminals.

## **2. Intermodal terminals owned and operated by the IM**

The Infrastructure Manager owns several intermodal freight terminals scattered throughout the country. Some of them are directly operated by the IM. Given that running freight terminals is not the main business of the IM, it operates just those terminals which are less relevant in the national market in terms of volume of activity, while the rest are operated by independent SFOs. It is important to explain that the rail freight market in Spain shows several weaknesses, such as a low modal split and technical difficulties that hinders its competitiveness. Consequently, the ability of freight terminals to combine competitive prices and profitability is limited, and sometimes this situation leads to setting tariffs that are affordable for the RUs but that do not cover the cost of providing the service.

In this context, the IM tried to establish the optimal tariff that would allow for the highest cost coverage, while fostering demand for its services. If the charge was set too high, then it might not be affordable by RUs; and if set too low, the ratio of cost coverage would be highly unprofitable. Since terminals were diverse in terms of demand, capacity and means of provision, it was difficult to assess the optimal charge for each terminal. Therefore, the IM presented a study that assessed charges for the handling of ITUs in a global way. The cost model bundled all the terminals managed by the IM in the same analysis, treating them as though they were just one facility. The IM then proposed a single charge for the service regardless of the concrete terminal. Given the volume of activity at each terminal, this tariff was more profitable for some terminals while yielding a higher deficit for others.

The study showed that the vast majority of costs borne by the IM were fixed cost, such as depreciation of the facility, cranes and other machinery or personnel, what implies the existence of economies of scale. Therefore, the increase in the volume of activity would result into a higher ratio of cost coverage. In order to assess the optimum charge that achieved the higher coverage and helped fostering demand, the IM presented different scenarios for calculating the tariff. The IM claimed that the optimum tariff was the one that equals unitary costs and incomes when the terminals run at its full capacity. In this scenario, the charge would cover all the costs if, by the end of the year all the terminals had handled as many containers as their capacity allows for.

CNMC analysed this model in 2016. As a result of the review, the Spanish regulator determined that charges for the handling of ITUs complied with price regulation, even though the cost model approached unitary costs in an unusual manner. It did not divide total cost over actual volume of activity, but rather used the theoretical maximum capacity (as in number of ITUs per year). However, charges would still fulfil the requirement of not exceeding cost of provision plus a reasonable profit.

## **B. Other cases**

In Denmark, the RB is dealing with several cases regarding the two intermodal terminals operated by DB Cargo Scandinavia (a part of the Deutsche Bahn group). These cases were taken to court by DB Cargo and concern the setting of charges at the DB Cargo terminals and general terms.

There was a case between 2013 and 2018 in Germany going through all national court levels dealing with the question whether a trimodal terminal for intermodal traffic within a port falls under the regulation law or not. At that time, regulation of freight terminals was already common practice. The main seaport terminals had set up service facility descriptions and thus accepted their regulated status. However, there were a couple of terminal operators located in an inland port that had another legal point of view. They claimed that railway regulation is not applicable because their core business is mainly related to maritime hinterland traffic. Beyond that, some of those freight terminal operators felt to be disadvantaged compared with freight terminal operators only handling units between street and water traffic because the latter are not obliged to publish handling charges. This led to a judicial proceeding in one sample case. The courts stated that it is not relevant how much share the railway traffic within a terminal represents in relation to other traffic modes. As long as there is a connection (direct or indirect) to the railway network and rail services are offered the company falls under railway regulation and is obliged to set up a service facility statement and to grant non-discriminatory access.