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Translation

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Recommendations for the logistical optimisation of the use RU-kept freight wagons in international jointly-operated traffic - Cost accounting and allocation guidelines

Recommandations pour l'optimisation logistique de l'utilisation des wagons dont les détenteurs sont des EF en trafic international sous co-traitance - Guide pour les décomptes et imputations
Empfehlungen für die logistische Optimierung bei der Verwendung von Güterwagen, deren Halter EVU in international gemeinsam betriebenen Verkehren sind - Leitfaden für die Abrechnung und Zuschreibung



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Summary

This leaflet describes the procedures and structures for cost accounting and allocation between RUs as part of the logistical optimisation of the use of RU-kept wagons in international jointly-operated traffic, known as the LOWCOST system.

This leaflet does not regulate the level of applicable charges, penalties, etc. These are the object of additional individual agreements between the railways concerned in the use of the wagon.

The following recommendations promote a consistent implementation of the principles defined in the LOWCOST system, in line with COTIF 99, the General Contract for the Use of wagons (GCU) and EU Directives.

This leaflet provides a universally valid framework, recommended for those RUs that use freight wagons kept by RUs, to close the gaps in the GCU regulations and simultaneously keep the handling and processing costs to an absolute minimum.

The following recommendations are initially valid for bilateral traffic, pending the execution of more comprehensive studies on their wider application in traffic operated jointly by a greater number of carriers.

1 - General

1.1 - Objectives

The LOWCOST project has five principal objectives:

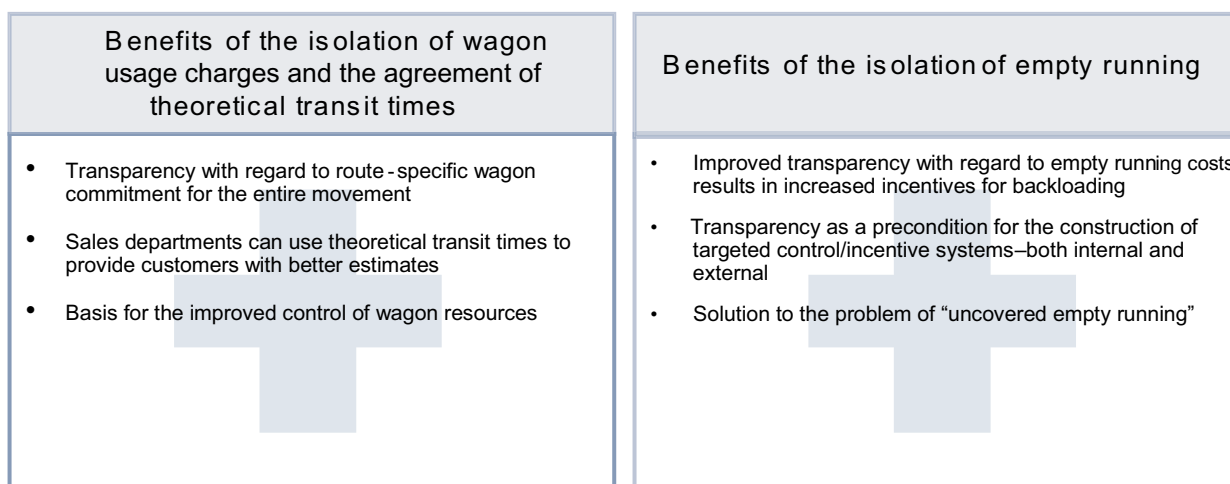
- to meet legal requirements, by establishing a transport charge and separate billing for the empty running of freight wagons kept by RUs (see List of abbreviations - page 50);
- to close the gaps in the GCU (see List of abbreviations - page 50) regulations by recommending a model structure for the commercial regulations governing the use of freight wagons, in order to reduce the process and handling costs by means of a standardised model. This leaflet does not regulate the level of applicable charges; these are the object of bilateral agreements between the railways concerned;
- to create a European standard for the commercial regulations governing the international exchange of wagons;
- to safeguard competitiveness in international rail freight traffic: on the one hand, by the unbundling of services (separation), thus creating transparency; and on the other, by improvements in the control of resources by minimising the number of empty movements and promoting backloading;
- to consolidate transport and wagon revenues into a single system.

1.2 - Basic principle

The recommendations of LOWCOST only apply to the relationship between the railways participating in the transport movement (in their role as carrier and keeper). The relationship with the customer wishing to transport goods on freight wagons kept by RUs remains unchanged. The customer continues to pay an all-inclusive rate for a consignment in a railway wagon for the entire movement. The all-inclusive transport revenue shares of the railways participating in the loaded transport movement will also continue to be calculated on the basis of the revenue received from the customer according to the tariff or customer agreement applicable.

The empty movement of wagons kept by RUs shall be invoiced separately. This means that carrier RUs shall invoice keepers separately for the empty movement of their wagons. The revenue share which the wagon keeper receives from the transport charges paid by the customer will also have to cover these anticipated empty running costs - both for its own section of route and for the foreign section. Furthermore, the revenue share received by the wagon keeper will also have to cover the anticipated wagon provision costs for the entire duration of commitment of the wagon domestically and abroad.

In order that the requirements described above can be met in future (independent pricing of empty running, coverage of anticipated wagon provision costs), the separation of the loaded movement share, the empty running share and the wagon share, which are currently consolidated in the "all-inclusive transport revenue share", is necessary. The all-inclusive transport revenue shares of the respective railways will therefore be **divided** into a **wagon share** to cover the calculated costs for wagon provision, an **empty running share** to cover the calculated empty running costs, and a **loaded movement share** to cover the cost of the loaded movement.



A clear increase in transparency with regard to the cost-effectiveness of international transport movements

Fig. 1 - Advantages of LOWCOST

2 - How LOWCOST operates

Introductory example

The following example serves to better illustrate how LOWCOST operates by illustrating the individual stages towards the implementation of the recommendations:

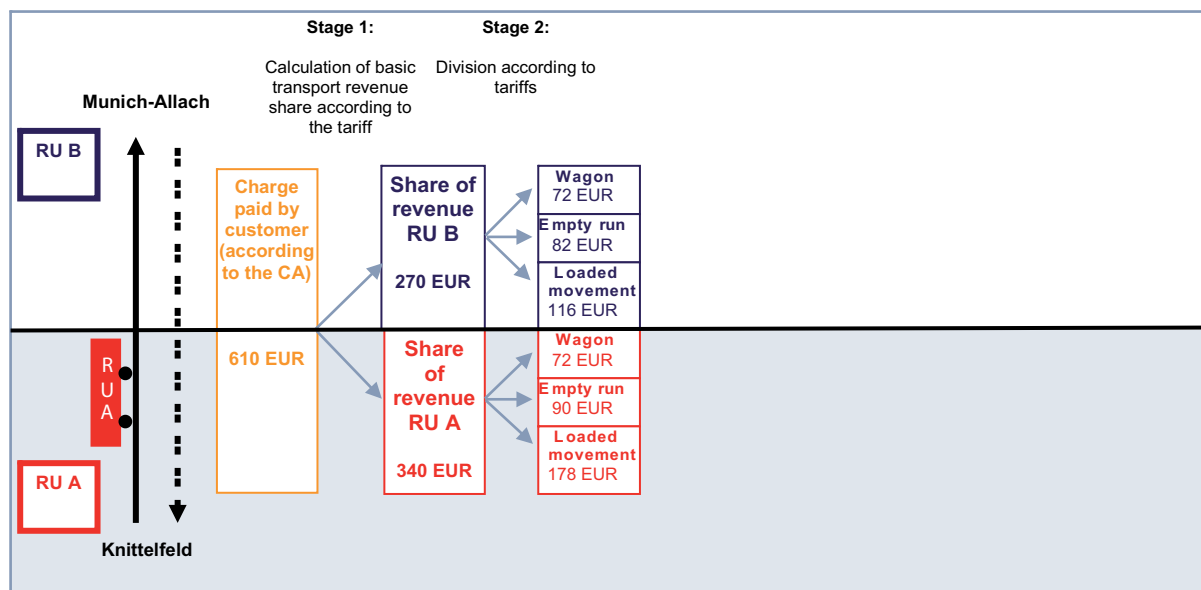


Fig. 2 - Situation: reciprocal traffic with RU A as wagon keeper (loaded - empty)

The above example illustrates a reciprocal transport movement, in which RU A functions simultaneously as wagon keeper and carrier RU, and RU B is involved as a carrier RU. The RU A wagon runs loaded from Austria to Germany (Knittelfeld - Munich-Allach). During the return run (from Munich-Allach to Austria), the wagon runs empty.

As a result of this transport movement, in Stage 1 the railways receive the all-inclusive transport revenue shares agreed in the customer contract. In our example, of the total charge paid by the customer of 610 Euros, RU A receives 340 Euros and RU B 270 Euros, as per the tariff agreement. After allocation of the all-inclusive transport revenue shares to the respective railways, Stage 2 foresees the separation of each railway's shares into a wagon share, an empty running share and a loaded movement share. In the above example, RU A's all-inclusive transport revenue share of 340 Euros is divided into a wagon share of 72 Euros, an empty running share of 90 Euros and a loaded movement share of 178 Euros. From RU B's all-inclusive transport revenue share of 270 Euros, this results in: 72 Euros for the wagon share, 82 Euros for the empty running share and 116 Euros for the loaded movement share.

The wagon and empty running shares are calculated according to a particular logic, based on various parameters (see point 2.2 - page 8). The loaded movement share is produced as a residuum after the deduction of these wagon and empty running shares from the all-inclusive transport revenue share of the respective railway.

2.1 - Isolation and allocation of the wagon and empty running shares

2.1.1 - Isolation of the wagon share and allocation to the wagon keeper

The transport revenue share received by the wagon keeper must in future, as already explained, cover the anticipated wagon provision costs for the entire duration of commitment of the wagon domestically and abroad. For this reason, the total wagon shares for both the domestic and foreign sections shall be allocated to the wagon keeper.

Theoretical transit times

The charge to be paid to the wagon keeper by the carrier RUs for their use of his wagon in traffic shall be governed by the wagon share. To do this, the wagon keeper and the carrier RU will agree so-called "theoretical transit times". The carrier railway must hand back the wagons to the wagon keeper or to another RU within these times. The theoretical transit times take account of the time needed for a prorata loaded movement, a pro-rata empty movement and time for loading or unloading by the customer on the network of the carrier RU. The calculation of transit times is based on the amount of time spent by a foreign wagon on the territory of the carrier RU between one transition point (currently a border entry) and another transition point (currently a border exit).

If the agreed transit time is exceeded, the keeper is also entitled to penalty charges, to be paid in addition to the wagon share he is due (see point 2.4 - page 9).

In the diagram below the theoretical transit time to a defined destination station in both countries is 168 hours per country for a transport movement from Knittelfeld to Munich-Allach.

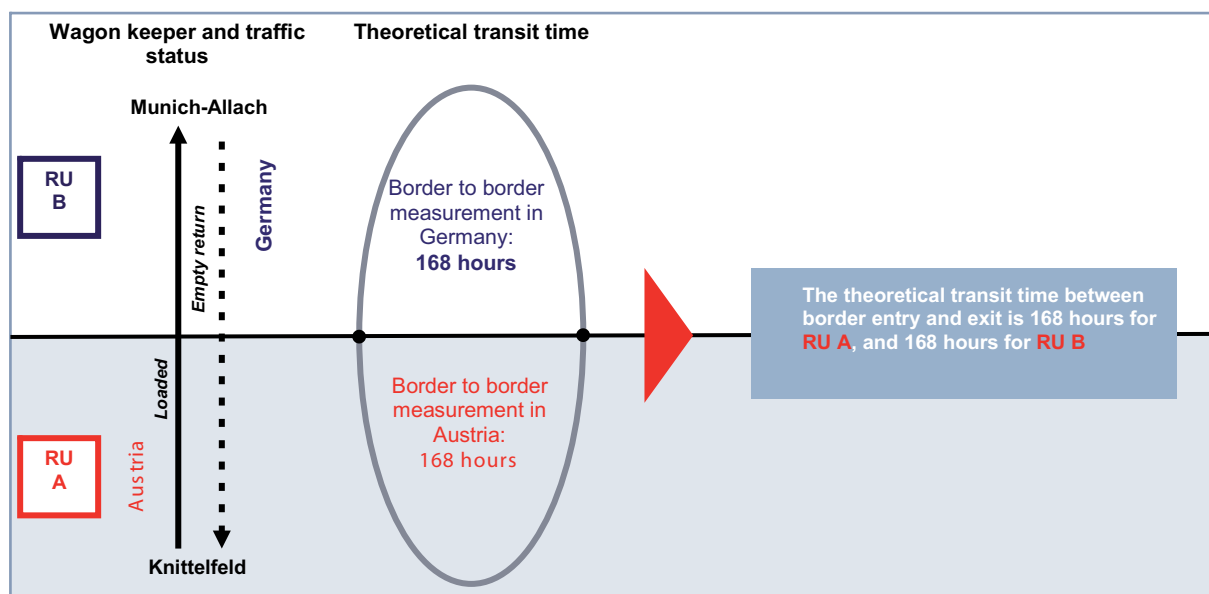


Fig. 3 - Theoretical transit time

Calculation of the wagon share

The wagon share (the anticipated wagon provision costs) is calculated on the basis of the agreed theoretical transit times for each RU's section, multiplied by the wagon rate for the wagon used (wagon type) and will be deducted from the all-inclusive transport revenue share (see point 2.2 - page 8).

The difference between the all-inclusive transport revenue share of one railway and the wagon and empty running shares is the loaded movement share, which always remains with the carrier RU.

The transport revenue which accrues to an RU for a loaded movement under LOWCOST is therefore dependent on whether the RU is an authorised user of the wagon and therefore the wagon keeper, or not.

The resulting allocation of shares is described in the diagram below:

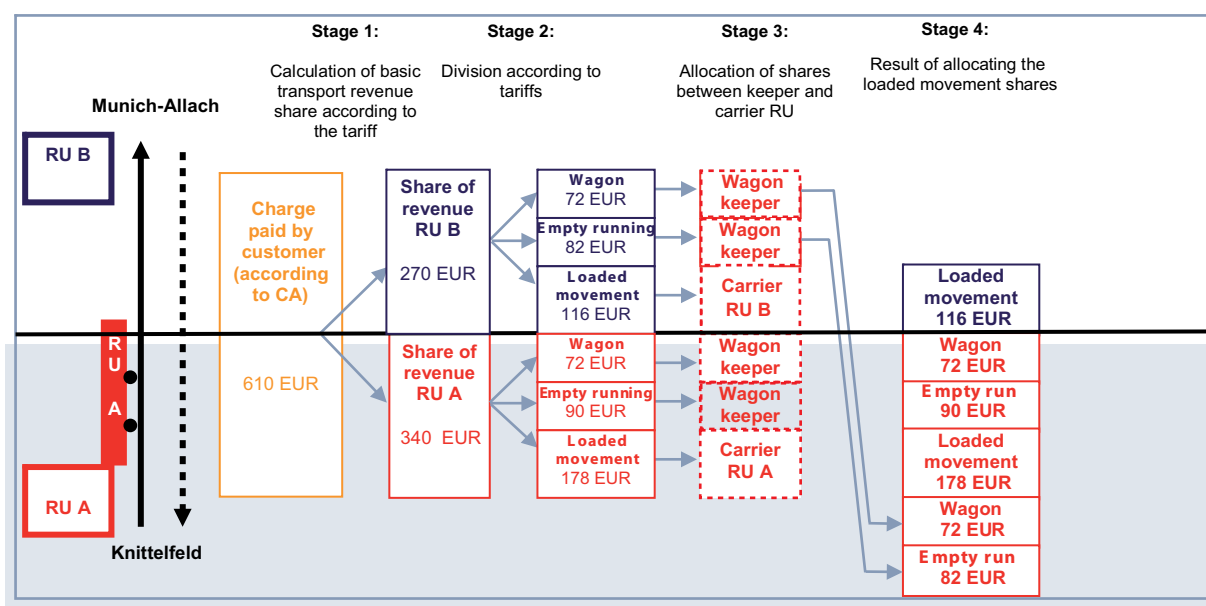


Fig. 4 - Situation: reciprocal traffic with RU A as wagon keeper (loaded - empty)

In Stage 3, all the empty running shares of both RU A (90 Euros) and RU B (82 Euros) and the wagon shares of RU A (72 Euros) and RU B (72 Euros) for both the domestic and foreign sections are allocated to RU A as the wagon keeper. The loaded movement shares always remain with the respective carrier RU (RU A: 178 Euros; RU B: 116 Euros). The result of the allocation of shares is depicted by Stage 4.

2.1.2 - Isolation of the empty running shares and provision for rates of empty running

Empty running of railway wagons will in future be a distinct type of transport for which a charge will be levied. In this respect, the individual order for the empty movement will be issued by the keeper itself, or by the local RU in accordance with the agreed general instructions of the keeper.

The pricing of empty running will be done according to railway-specific defined empty running tariffs. These can be differentiated according to empty running km or number of wagon axles (see point 5.1 - page 21).

Rates of empty running

The normal operation of international reciprocal wagonload traffic is characterised by a loaded movement combined with an empty one. The backload (in the case of balanced loads, i.e. wagons loaded on both runs) also needs to be taken into account when calculating the empty running share, as the wagon keeper is not required to pay for an empty run in such cases. Therefore the shares allocated to the wagon keeper need to be set at a correspondingly lower level. To meet this requirement, wagon type-specific rates of empty running for each country-to-country movement will be used in the calculation of empty running shares. As well as making provision for backloading, the empty running charges have an additional second function. Rates of empty running are not intended only to take account of the backload situation during the previous year, but also to indicate future development. For this reason, the rates of empty running are to be agreed as target values and therefore provide an incentive for backloading. The degree to which they are achieved must be reviewed regularly over the course of a year.

For actually incurred empty running, the wagon keeper pays empty running charges as per the tariff to the carrier RU which has carried out the movement, after being invoiced by the latter. Overall, the calculated empty running charges for each movement and the actual empty running charges paid for an actual empty movement according to the tariff should however balance one another out.

The diagram below shows the effect of rates of empty running on the amounts represented by the empty running and loaded movement shares:

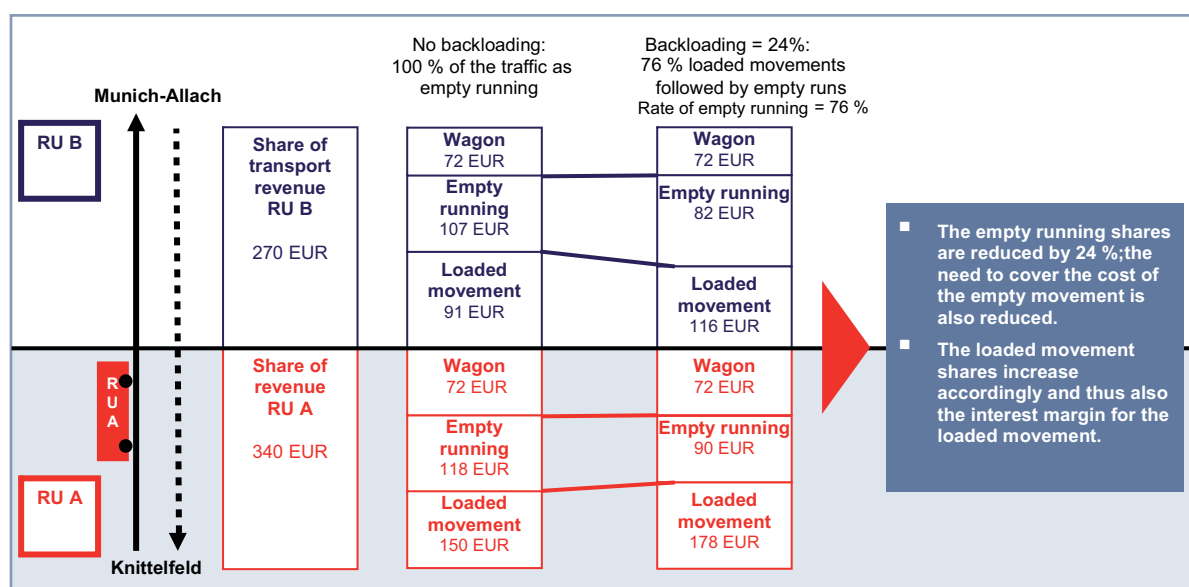


Fig. 5 - Situation: reciprocal traffic with RU A as wagon keeper (loaded - empty)

Calculation of the empty running share

The empty running share is thus calculated on the basis of agreed railway-specific empty running charges multiplied by the rate of empty running, and is deducted from the all-inclusive transport revenue share (see point 2.2 - page 8).

2.2 - Calculation logic

The calculation logic already described is here first summarised as an overview, and then illustrated by means of a numerical example:

Calculation logic - summarised:

- **Basis for calculation** = all-inclusive transport revenue share of the respective RU (e.g. RU A);
- **Wagon share** = theoretical transit time x wagon rate;
- **Empty running share** = empty running charge as per kilometeric band of the tariff x rate of empty running;
- **Loaded movement share RU A** = all-inclusive transport revenue share A - empty running share A - wagon share A.

Illustrated as a numerical example:

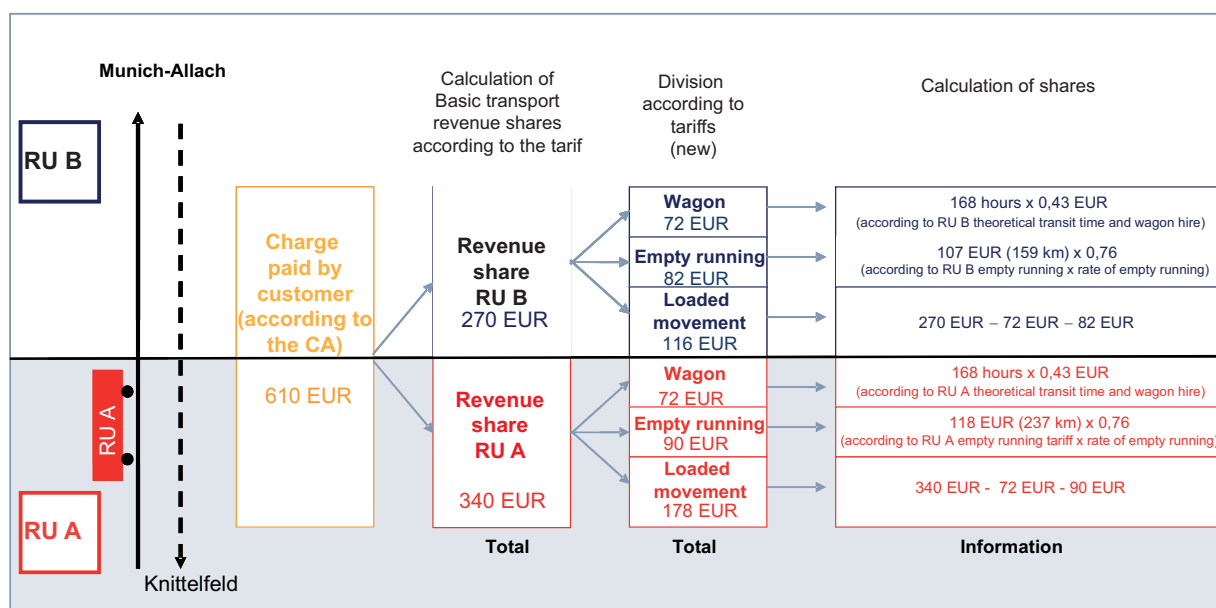


Fig. 6 - Situation: reciprocal traffic with RU A as wagon keeper (loaded - empty)

2.3 - Separate invoicing for an actually incurred empty movement

For an actually incurred empty movement, the wagon keeper must pay an empty running charge to the carrier RU which carried it out. For this purpose, the carrier RU which carried out the movement must issue the wagon keeper with an invoice for the empty movement.

At the end of the transport cycle and after the return of the (empty) wagon, the carrier RU will have received its loaded movement share and a share for the actually incurred empty movement over its territory.

The carrier RU, which is simultaneously the wagon keeper in this transport movement, will have received its loaded movement share, its wagon shares for wagon provision for both the domestic and foreign sections and also the empty running share for its own section of route.

2.4 - Penalty system

If the defined theoretical transit times are exceeded by the carrier RU, a penalty charge applies for the duration of the time by which they are exceeded. Should one of the contract partners in the role of carrier RU execute the transport movement in less than the stipulated theoretical transit times, a positive differential exists.

Negative differentials (excessive time) and positive differentials (improvements in time) are evaluated according to the penalty rates and scales. Negative differentials incur penalty charges; positive differentials have the effect of reducing penalties. Penalty charges and reductions will be totalised each month within a wagon category and the balance settled between the partners.

The charging of a penalty for exceeding the defined theoretical transit time will incentivise the carrier RU to return foreign wagons to the keeper within the theoretical transit times. In this way, the duration of individual wagon turnarounds can be monitored and accelerated.

For backloads, the RU which has initiated the backload receives backload compensation. The aim is to incentivise more backloads and make visible the commercial benefits (for the backloading RU).

2.5 - Progressive transition to LOWCOST

In view of the technical IT ([see List of abbreviations - page 50](#)) adjustments required for the proper functioning of LOWCOST, it is not possible to apply the present recommendations to all wagons, all transport and all wagon keepers in a single first step. During the transition period the parallel application of many systems is inevitable. Conversion will be carried out on a route-by-route basis i.e. at a given moment all or a percentage of all bilateral transport for one RU will be incorporated.

The requirements for the implementation of LOWCOST are to be achieved within the system itself whilst simultaneously retaining models of agreement (e.g. according to the former RIV), i.e:

- identification/allocation of foreign wagons in the accounts, e.g. according to RIV ([see List of abbreviations - page 50](#)) or LOWCOST,
- checking and ensuring that wagons which are running under LOWCOST are removed from the charge accounts according to the traditional system,
- application of an agreed code for the free of charge times as per model D/RIV.

2.6 - Summary

The main principles introduced by LOWCOST can be summarised as follows:

- the isolation of usage charges from the all-inclusive transport revenue share and the agreement of theoretical transit times with other RUs;
- the isolation of empty running shares for RU-kept wagons from the all-inclusive transport revenue share, applying a rate of empty running and separate invoicing of actually incurred empty movements of railway wagons.

The LOWCOST recommendations introduce route-specific theoretical transit times abroad as a matter of course. This creates transparency in international traffic with regard to route-related wagon provision costs over the whole route. Penalties for exceeding the theoretical transit time (TTT - see List of abbreviations - [page 50](#)) increase incentives to maintain the TTT and thereby encourage accelerated wagon turnarounds.

Furthermore, through the isolation of the empty running shares, the actual costs for the empty movement of RU-kept wagons become transparent, which contributes to increased incentives to optimise the utilisation of the wagon (backloading).

With LOWCOST, transport revenue and charges for the use of wagons in international traffic are integrated in a single system.

3 - Structure of "LOWCOST"

LOWCOST requires seven input parameters and six identification criteria, which will be agreed upon by the RUs that agree upon the use of LOWCOST. To facilitate the faultless functioning of the IT systems of RUs using LOWCOST, appropriately harmonised tables should be employed.

3.1 - Input parameters

The input parameters permit: the calculation of the wagon and empty running shares during the division of transport revenue for the loaded movement (all tariffs); account-keeping for actually incurred empty running (empty running tariff); and a record of theoretical/actual transit times when calculating penalties (comparison of theoretical transit times to actual transit times). These will consequently be filed in the different systems.

There are several different input parameters:

- theoretical transit times,
- wagon rates,
- empty running charges,
- rates of empty running,
- schedule and level of penalties,
- totalising groups,
- supplementary margins on theoretical transit times (e.g. for workshop visits, backloading, etc.).

3.1.1 - Theoretical transit times (TTT)

- There is only one list of theoretical transit times per carrier RU (no differentiation between theoretical transit times by wagon keeper or country-to-country route).
- The definition of (average) theoretical transit times will depend on stations and transition points (currently border crossings).
- Exceptions exist only for a few particular transport movements with considerably shorter theoretical transit times; these are identified by the customer agreement number (CA number - see List of abbreviations - [page 50](#)) and the route (for combined transport and selected block train routes in particular).
- Theoretical transit times will be fixed for one year; the addition of new dispatch points during the year is possible (in accordance with *UIC Leaflet 920-2* and modification of the measured actual times subject to agreement - see Bibliography - [page 51](#)).
- For routes for which no theoretical transit times have yet been defined, a default value can be fixed as a global fallback plan.

The theoretical transit times are used in both the theoretical/actual comparison and the division of transport revenue. In the theoretical/actual comparison, the theoretical transit times provide a reference against which the measured actual times are compared. In the division of transport revenue between the carrier RUs, the theoretical transit times form the basis for calculating the wagon share, inasmuch as they are multiplied by the wagon rate.

Theoretical times for backloading

In the theoretical/actual comparison, where there is a backload the theoretical time of the destination/dispatch station with the longest theoretical time will be used, plus a supplementary margin on this theoretical time, which is to be agreed upon (bilaterally).

In contrast, when dividing transport revenue both loaded movements will be used as the basis for the calculation of the wagon share, together with the theoretical time of the respective destination/backload station.

The difference between the theoretical times used in the division of transport revenue to calculate the wagon share and the longer of the two theoretical times used in the theoretical/actual comparison, plus the reciprocally agreed time supplement, will be compensated via a backload compensation. This is to be paid by the wagon keeper to the carrier RU.

A model of the theoretical transit times table and its construction are presented in Appendix [D.1 - page 38](#).

3.1.2 - Wagon rates

- There is a single wagon rates table per authorised wagon user per country-to-country route, i.e. the wagon rates are fixed on the appropriate country-to-country axis irrespective of the carrier RU.
- The authorised wagon user is generally the registered keeper - however when the wagon is hired out the hirer, and not the keeper, is the authorised wagon user.

The wagon rates are required for the division of transport revenue. Wagon rates per hour multiplied by the theoretical transit times in hours produce the wagon share, which is deducted from the all-inclusive transport revenue share and allocated to the wagon keeper.

A model of the wagon rates table and its construction are presented in Appendix [D.2 - page 40](#).

3.1.3 - Empty running charges

- For each carrier RU and section of route there is a list of empty running charges applicable to all keepers. This forms the basis for the calculation of the empty running shares in the division of transport revenue for the loaded movement. Traffic-specific empty running charges are not envisaged (if necessary, they can be taken into account via traffic-specific rates of empty running). It is not possible to reflect any keeper-related rebates in the division of transport revenue for the loaded movement.
- For actually incurred empty running (transport of empty wagons), an RU can include keeper-related rebates and surcharges on the list.

In order to calculate the empty running share when isolating the various parts of the service for the division of transport revenue for loaded movements, and in order to invoice the actually incurred empty running, each RU requires a list of empty running charges for the movement of empty wagons over its own stretch of route. In principle, empty running charges can be divided into three types: empty running charges for domestic traffic (required for the deployment of the wagon by exact wagon number by the keeper or by the authorised user of the wagon), empty running charges for import/export and empty running charges for transit movements.

The standard empty running charges depend on the tariff per km and the number of axles of the wagon (2, 4, > 4 axles).

A model of the empty running charges table and its construction are presented in Appendix [D.3 - page 41](#).

3.1.4 - Rates of empty running

- The rate of empty running depends on the authorised wagon user, the direction of the traffic flow, the wagon category and the dispatch and destination railway. On the basis that railways do not operate solely over their home networks, but also over foreign ones, the dispatch and destination countries also represent a differentiation criterion.
- In exceptional cases, traffic-specific rates of empty running can be taken account of using CA numbers and the (dispatch or destination) station.

The application of an empty running rate to the empty running charges serves to take account of both the actually incurred empty movements and the average wagon type-specific backloads when calculating the amount represented by the empty running shares to be allocated to the wagon keeper in the division of transport revenue for the loaded movement.

A model of the rates of empty running table and its construction are presented in Appendix [D.4 - page 43](#).

3.1.5 - Schedule and levels of penalties

- For the calculation of penalties, there is one penalty schedule (in hours) and one table of penalty levels per wagon keeper and carrier RU.

The "penalty schedule" table defines the hourly scale on the basis of which penalties are due at the level defined by the "penalty level" table.

The penalty level table indicates the hourly rate in Euros for each penalty tier which is payable for the relevant penalty scale (as per the penalty schedule).

Models of the penalty schedule and penalty level tables and their construction are presented in Appendices [D.5.1 - page 44](#) and [D.5.2 - page 45](#) respectively.

3.1.6 - Totalising groups

- There is one table of totalising groups per wagon keeper and carrier RU.
- NB: totalising groups are not currently in use.