

New markings of intermodal loading units in Europe

Intermodality and standardisation

The introduction of containers and their worldwide standardisation based on ISO¹ standards has resulted in increased efficiency of deep sea shipping which in turn brought about a significant expansion of world trade and created the basis for globalization.

In continental transport, intermodality enables to combine the advantages of two or more transport modes, for instance the high transport capacity, security and environmental performance of rail or inland navigation with the flexibility of road over short distances and in dense urban settings.

The new EN 13044 standard for the marking of intermodal loading units simplifies the access to Combined Transport and brings efficiency improvements for all those involved.

Almost gone unnoticed, a new era started in rail freight transport. Whereas the conventional 'wagonload' rail freight transport stagnates, road-rail Combined Transport (CT) was able to register high growth rates. Direct trains link big cities at competitive costs and speeds compared to road.

The share of CT in the performance of freight transport (tkm) of European railway undertakings currently represents 25-40%. More than 1.200 freight trains per working day, each with an average transport capacity of 25 truck loads, travel 500km on national and 950km on cross-border relations, which in comparison with road freight transport results in a 75% reduction of CO₂ emissions.



SIIM KALLAS
Vice-President
of the European Commission
and Transport Commissioner

The initiative embodied in EN 13044 and the ILU-Code is a prime example for industry voluntarily regulating itself: a solution which the European Commission much prefers, especially when it embraces important security-related considerations, while also enhancing operational efficiency, all without the intervention of the legislator.

ISO containers are shipped on road, by inland waterway or rail mainly in seaport hinterland traffic; in continental transport easy-to-tranship loading units, standardised CEN² swapbodies and semi-trailers are used. These are better adapted to the dimensions of road vehicles and are also lighter and easier to load. Due to common technical characteristics, many road vehicles, wagons and transhipment devices are suitable for use with every type of loading unit.

Also the owner identification of European loading units and ISO-Containers will develop in a compatible way in the coming years.

¹ ISO: International Organization for Standardization

² CEN Comité Européen de Normalisation = European Committee for Standardisation

A code for the loading gauge

The forwarding of loading units on rail wagons almost always exceeds the normal loading gauge of average railway lines and can therefore only run on sections of the rail network which have been specifically measured and certified for an increased loading gauge. A gauge code is allocated to these railway lines, which indicates the maximum dimension of loading units that may use the route referring to a standard CT wagon.

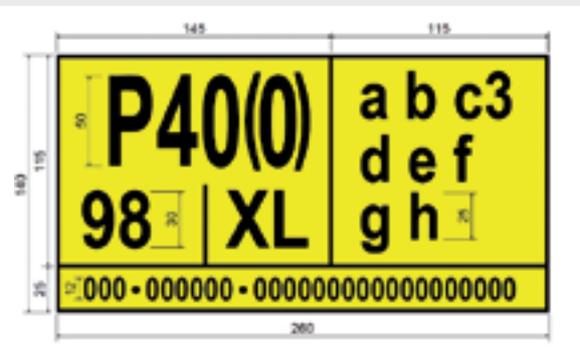
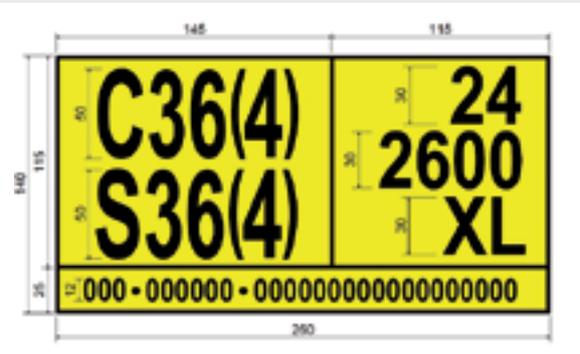
The CT loading units (swap-bodies, non-ISO³ containers and semi-trailers) also need to have a corresponding codification. To be able to run on a given rail route, the gauge code of the loading unit cannot exceed the codes of the railway lines making up the route. Moreover, some wagons with very low loading platforms may have correction digits – differentiated from country to country – which permit the passage of loading units that are higher by a few centimetres.

Over the years, rail gauges (especially limited in rail tunnels) have continually improved on several important railway lines in order to allow the passage on rail by almost any loading unit transported on road.

Authorisation and codification

Intermodal loading units require certification to be transported by rail and must be fitted with a gauge code. In accordance with EN 13044, this “codification” for swap-bodies and semi-trailers will be carried out directly by the manufacturer. He will submit the design plans and related calculations to the competent authorities (railway undertakings, CT operators or certification instances) followed by, if necessary, a resistance test to ensure that the design meets the CEN standards or UIC leaflets. The loading units then will receive a codification plate which certifies rail compliance and contains all the essential information to operations: for swap-bodies the gauge, length, width code and the resistance category, while for semi-trailers: important information for the quick and safe loading (carriage height, compatibility code for pocket wagons).

The manufacturer has to guarantee towards the buyer and third party that the delivered units comply with the certified design.



► New codification plates compliant with the EN 13044 standard for swap-bodies and semi-trailers (for each and according to preference: horizontal or vertical)

³ ISO containers do not need a codification as they are built according to internationally prescribed ISO standards. Their dimensions are predefined. As the width and height stay unchanged the different dimensions of length (20, 30 or 40 feet) can be easily distinguished.

Identification of the owner of loading units

The current standard for a maritime container is the worldwide ISO 6346 standard which describes the BIC-Code allocated by the “Bureau International de Containers”. Nearly 2.000 BIC

Standardised owner codes

In the future, only one uniform type of owner identification will be applied on loading units: the worldwide BIC-Code for freight containers and the new compatible ILU-Code for European loading units where BIC and UIRR are the issuers of the owner-key. The marking on every loading unit looks as follows:

Owner-key - Registration number - Check digit
ABCD 001234 3

Owner-key:	Allocation by UIRR or BIC 4th alpha character for type of loading unit ⁵
Registration number:	Free allocation by owner
Check digit:	Given calculation procedure



owner codes have been issued up to now, thus enabling the owners of ISO-containers (ship owners, carriers or leasing companies) to effectively identify the ownership of more than 20 million freight containers worldwide.

The capacity of the BIC-Code, with a “U” for “freight containers” in the 4th place, permits the allocation of nearly 17.000 codes. This would not be sufficient if all European entities owning loading units wanted to obtain such a code.

For the loading units being mainly used within Europe (swap-bodies and semi-trailers), a technically compatible ‘ILU⁴-Code’ is introduced by the European EN 13044 standard, which will be administered by the International Union of Combined Road-Rail Transport Companies (UIRR).

In the USA, the “National Motor Freight Traffic Association” (NMFTA) allocates the “Standard Carrier Alpha Code” (SCAC) to identify freight carriers and their loading units. Since the loading units marked with the SCAC, mostly semi-trailers, remain on the American continent, the European loading units can receive a similarly structured ILU-Code as they will be deployed exclusively within Europe.

NMFTA has ensured that it would not allocate owner codes with ‘U’, ‘J’ or ‘Z’, as these are reserved for the worldwide BIC-Code.

BIC-Code or ILU-Code?

For companies owning European loading units, the administrative costs of codification and of the yellow plate for each individual unit will disappear in the future. Instead, they will need a BIC-Code or an ILU-Code as owner-key for the identification of all of their loading units.

Every actor from the maritime sector and owner of ISO containers already having a BIC-Code may, according to the ISO 6346 standard, mark all freight containers, including swap-bodies.

The ILU-Code, which is compatible with the BIC-Code has been conceived for those companies who own swap-bodies and semi-trailers used in European intermodal transport on road, inland navigation and short distance sea shipping.

Companies already in possession of a BIC-Code will only need to acquire an ILU-Code if they also own semi-trailers. On request, they can get an ILU-Code ending with “K” and with the first three letters matching their BIC-Code.

⁴ Intermodal Loading Units, abbreviated ILU

⁵ ISO 6346 requires ‘U’ on the last place for containers, ‘J’ for equipment fitted on the container and ‘Z’ for trailers and the chassis. The EN 13044 requires a ‘A’, ‘B’, ‘D’, ‘E’ or ‘K’ for ILUs with restricted use for Europe.

Launching and transition rules

The expected efficiency improvements will become visible when after a transition period only the new markings are used.



UIC railway undertakings and UIRR operators have therefore decided the following deployment plan:

1. From July 2011, UIRR will start issuing the ILU-Codes, while operational marking will be carried out using the new codification plates.
2. After a three-year transition period, from July 2014, only loading units marked with a BIC-Code or an ILU-Code will be accepted.
3. After an eight-year transition period, from July 2019, every loading unit will have to be fitted with the new codification plate.

Administration of the owner code of companies based in several countries is not easy as some of them move, others close, etc. and the code database must always be updated.

UIRR, the administrator of the ILU-Code, is mainly financed by its member companies, which enables it to charge fees at marginal cost and hence make this step easy to accept by the transport sector. The initial allocation of the ILU-Code will cost EUR 250, while the renewal, due only every second year, EUR 100.

Advantages for all

- + The ILU-Code allows a simplification of the electronic data processing and operational running for the actors of the transport chain. The code adapted to electronic data processing reduces the number of data capture errors as 95% of the possible typing errors are immediately spotted thanks to the check digit. The correction costs for the data capture errors and the transmission are thus considerably reduced.
- + The EN 13044 standard distinguishes the owner identification from the operational marking requested for the rail operation. In future, this “codification” will be directly carried out by the manufacturer. The yellow codification plate concerns characteristics of the intermodal loading unit such as the geometric dimensions and the resistance which are retained in case of a change of owner. In case of sale, a new codification is therefore not needed anymore.
- + All swap-bodies and craneable semi-trailers, even if purchased to be used in pure road transport only, will be usable in rail transport. Logistics companies and road hauliers will only have to – as this is already the case for the containers – provide their loading units with their owner-key consisting of four letters followed by six digits, with which they can codify their rolling stock according to own criteria, to be followed by a check digit.
- + Every actor of the transport chain, as well as third parties, for example customs authorities, emergency services, can at any time identify the owner of a loading unit given that the owner code is published⁶. This is an important aspect for the checks at the borders but also within EU for the future reinforced requirements in the fields of security and safety. For more efficient operations in ports and terminals, the custom authorities more and more check the identity of containers directly with BIC. This procedure will in the future likely be extended to all CT terminals. Swap-bodies and semi-trailers fitted with an ILU-Code could then also be checked and be shipped with priority.
- + The BIC-/ILU-Code, written in larger characters, are OCR⁷-readable. The systems which are already installed at seaports can thus also find an application in the continental terminals and contribute to their streamlining.

⁶ <http://www.bic-code.org> and as from 1 July 2011 <http://www.ilu-code.eu>

⁷ OCR: Optical Character Recognition

GREGOR ATHENS - Winner Spedition

Good news at last. Whereas all prices go up, Winner Spedition will not have to pay a codification fee for each loading unit anymore, as considerably lower fees will be charged for the new ILU-Code with which all our loading units can be marked. The independent numbering will allow Winner Spedition to integrate our proprietary loading unit number into the code.



ALEX BRUSKIN - VAN HOOL (Manufacturer)

Van Hool will enhance the value of its swap-bodies and cranable semi-trailers as they will be fitted with a standard codification plate, making them suited for use on all transport modes, irrespective whether the customer is a pure road haulier or already a rail user.

GIUSEPPE MACCHIA - Terminali Italia

The introduction of the ILU-Code with check-digit will enable the saving of labour thanks to the reduction of data capture errors at the 20 terminals managed by Terminali Italia. The time saved can rather be devoted to improved customer service.

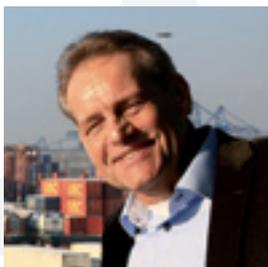
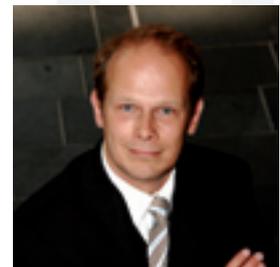


HANS-JÖRG BERTSCHI - Bertschi Spedition

When buying ISO containers, Bertschi places its owner code on the four sides and can immediately use them worldwide; it was time that this efficient procedure is also introduced for our European loading units.

OLIVER SELLNICK - Freight Director UIC⁸

The harmonised ISO 6346 and EN 13044 standards have the potential to be used for identifying intermodal loading units in the information exchange foreseen under the European regulation for freight telematics (TAF TSI) if extended to intermodal traffic. With BIC and UIRR, two renowned international organisations manage the owner codes in the interest of the transport sector.



COR HOENDERS - Rail Service Center Rotterdam

Confusion is about to end. Up to now, the containers handled at the Rotterdam Terminal were registered with their BIC-Code, swap-bodies based on their codification number or their tarp marking, while semi-trailers used their own license plate or the owner's fleet number. This led to possible errors and made the electronic data exchange difficult.

⁸ UIC Union Internationale des Chemins de Fer, International Union of Railways, Paris

WOLFGANG MÜLLER - DUSS (Germany)

As one of Europe's main CT-terminal managers, we already capture images of each loading unit at Check-in in our largest sites. We plan to buy OCR readers in order to also automatically identify loading units.

**JÉRÔME MINFRAY - Groupe Charles André**

As an international shipper specialised in liquid goods, we already have a BIC-Code which we use for ISO containers and those with larger European dimensions. We save the codification fees if the manufacturer provides already codified containers.

JOSEF MIČKA – Mička Transport & Logistics

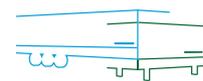
Up to now we have contacted Deutsche Bahn in order to have our semi-trailers codified. With the new system we save precious time when the loading units can be used immediately and universally in all modes.

**MARTIN BURKHARDT - UIRR Director General**

By means of a dedicated website (www.ilu-code.eu), UIRR as the administrator of the ILU-Code will offer a simple and quick service as from 1 July 2011. Companies owning loading units can request a code according to their preference, provided that it has not already been allocated. The registration and renewal fees can also be paid by credit card. The contact data of the companies will be made available through the multilingual website.

**Administrator of the ILU -Code**

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**ILU-Code**

the identification of Intermodal Loading Units in Europe

► You may apply for your
ILU-Code from 1 July 2011
using www.ilu-code.eu