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CEFACT/\_\_\_/\_\_\_



UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

UNITED NATIONS CENTRE FOR TRADE FACILITATION  
AND ELECTRONIC BUSINESS (UN/CEFACT)

**BUSINESS REQUIREMENTS SPECIFICATION  
(BRS)**

**Verified Gross Mass (VERMAS)**

**Approved: UN/CEFACT Bureau on 6 March 2017**

**Version: 1.1**

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<b>Phase</b>	<b>Status</b>	<b>Date Last Modified</b>
	Initial	2016-02-29
	Initial	2016-03-08

## Change Log

<b>Date of Change</b>	<b>Version</b>	<b>Paragraph Changed</b>	<b>Summary of Changes</b>
2016-02-29	1	initial	
2016-03-08	1.1	6.1 and 6.2 and 6.3	Wording adjusted based on feedback from the VERMAS working group.

## 2 Preamble

On July 1, 2016, a new SOLAS (Safety of Life at Sea convention of the International Maritime Organization or IMO) takes effect requiring shippers whose name appears on the bill of lading to verify the gross mass of a container carrying cargo when tendering the container to the ocean carriers and terminals. On July 1, 2016 the rule becomes not just international law under the IMO but national law within the 162 countries that are signatories to the SOLAS convention. The legally responsible party for providing a verified gross mass (VGM) signed either electronically or on paper is the shipper on the ocean carrier's Bill of Lading. Approximately 300.000 container weights will need to be transmitted each day globally.

The SOLAS regulation prescribes that the shipper must inform the carrier and the carrier must inform the terminal in the port of loading about the VGM in a timely manner so that the VGM can be used for the stowage planning process. A container for which the VGM is not available in time will not be loaded on the vessel.

The SOLAS regulation brings about a very high volume of additional data transmissions for the VGM of each container. Literally each party in the global transport chain is involved, including the shipper, forwarder, NVO, carrier, vessel operator, terminals and also parties that have in the past not been involved such as static or mobile container weighing facilities.

This Verified Gross Mass Business Requirements Specification is developed by the SMDG subgroup of UN/CEFACT's Transport & Logistics Domain Group and it is based on international standards and on best business practice.

## 3 References

- UN/CEFACT Common Supply Chain BRS, Version 2.0
- The International Supply Chain Reference Model version 0.8  
*UN/CEFACT*
- United Nations Trade Data Elements Directory (ISO 7372)  
*International Organization for Standardization (ISO TC154)*
- ITIGG Principles  
*UN/CEFACT*

The SOLAS amendment has been prepared in conjunction with:

ISO 3874 (Freight containers handling and storage)

Revision of the International Convention for Safe Containers (CSC)

IMO/ILO/UNECE-CTU Code

## 4 Objective

The objective of this document is to propose a standard for the Business Processes, the Business Transactions and the Information Entities used in the process of making the VGM available to all actors in the supply chain in a timely manner.

The Business process is the detailed description of the way participants intend to play their respective roles, establish business relations and share responsibilities to interact efficiently with the support of their respective information systems. Each Business transaction is realized by an exchange of Business documents (also called messages). The sequence in which these documents are used, compose a particular instance of a scenario and are presented as use cases in the document.

The Business documents are composed of Information Entities, and represent the business view of structure and content of the data to be exchanged between the participants.

## 5 Scope

This project aims to standardize business processes and information entities for the transmission of a Verified Gross Mass (VGM) as required by the United Nations International Convention for the Safety of Life at Sea (SOLAS) chapter VI.

The scope is not limited to a particular process step or to a mode of transport in the supply chain. The VERMAS message can be sent by any party in the supply chain who has the knowledge about a VGM and who needs to inform the next party in the chain, for example a shipper, a carrier or a terminal. The sender may have obtained the verified gross mass himself or he may forward a VGM received from a third party.

The scope is however limited by the content of the message. The VERMAS shall only be used to transmit a Verified Gross Mass and the directly related data elements to a party that needs the VGM to proceed with the next process step or due to legal obligations. It shall not be augmented with non-related data elements, and it shall not be used as a handling order.

Reason for this scope definition is the criticality in terms of time. The VGM information is required by the receiver at a clearly defined point in time. If the VGM was transmitted along with other information then the processing on receiver side could be delayed.

<b>Context Category</b>	<b>Description</b>
Business Process	International forwarding and transportation
Product Classification	All
Industry Classification	Domestic and international transport involving a seagoing vessel
Geopolitical	Global
Official Constraints	None
Business Process Role	Consignor, Freight Forwarder, Dispatch Party, Carrier, Terminal, Weighing Services Provider
Supporting Role	ShipFrom, Carrier's Agent, Vessel's Master etc,
System Capabilities	No limitations

**Figure 1 – Context Categories**

## **6 Business Requirements**

### **6.1 Business Requirements Lists**

<b>Number</b>	<b>Business Requirement Statement</b>	<b>Business Transaction Name for this Requirement</b>
A1	The Shipper on the Ocean Carrier's Bill of Lading is the responsible party to ensure the transmission of the VGM and related data elements to the Carrier and the Terminal.	Shipper responsibility
A2	The Shipper may delegate the transmission of the VGM to the carrier to another party, for example to a freight forwarder or to a weighing facility.	VGM to carrier
A3	As per SOLAS the VGM must be communicated in a shipping document. That document must be signed by an authorized person. In an EDI transmission, that signature may be replaced by the name of the authorized person in capital letters.	Signature

A4	The Carrier should confirm the receipt of the VGM to the Shipper, as acknowledgement that the Shipper has fulfilled his responsibility.	Confirmation to Shipper
A5	The carrier must transmit a VGM received from a shipper or his delegate to the terminal in the port of loading	Carrier responsibility
A6	The terminal must ensure that only containers for which a VGM is available are used in the stowage planning process.	Terminal responsibility
A7	The carrier and the terminal must jointly ensure that a container for which a VGM was not made available in a timely manner gets not loaded on board the vessel.	Carrier and Terminal joint responsibility

**Figure 2 – Business requirements and key business information in a numbered list**

<b>Number</b>	<b>Data Requirement Statement</b>
B1	A VGM relates to a packed container in a clearly defined transport movement.
B2	The VGM for a container always related to a transport movement which must be clearly defined, for example by a booking number.
B3	The declared gross weight of a container may change from non-VGM to VGM.
B4	In a lifecycle of a transport movement there can be more than one VGM determined for a container, in this case the later overrules the earlier.
B5	A VGM relates to the responsible transmission party and to the authorized person.

**Figure 3 – Data Requirement Statement**

## 6.2 Definitions Business Terms

SHIPPER	Means a legal entity or person named on the bill of lading of the vessel operating shipping company as Shipper who or on whose behalf a contract of carriage has been concluded with the shipping company.
CARRIER	The party who, in a contract of carriage, undertakes to perform or to procure the performance of carriage by sea.
VESSEL OPERATOR	The party who operates a seagoing ship, who is the contractual partner to the terminal, who instructs the master and crew and who performs the stowage planning.
CONTRACT OF CARRIAGE	Means a contract in which a shipping company, against the payment of freight, undertakes to carry goods from one place to another. The contract may take the form of, or be evidenced by a document such as sea waybill, a bill of lading, or multi-modal transport document.
GROSS WEIGHT or GROSS MASS	Means the combined weight of a container's tare weight and the weights of all packages and cargo items, including pallets, dunnage and other packing material and securing materials packed into the container
VERIFIED GROSS MASS (VGM)	Means the total gross weight of a packed container as obtained by one of the methods (1 or 2) described in Chapter VI of the SOLAS Convention
SHIP	Means any vessel to which SOLAS chapter VI applies
SHIPPING DOCUMENT	Means a document used by the shipper to communicate the verified gross weight of the packed container. This document can be part of the shipping instructions to the shipping company or a separate communication (e.g., a declaration including a weight certificate produced by a weigh station).
SIGNATURE	The signature on the VGM shipping document can be replaced by the name in capitals of the person authorized to sign it.
TERMINAL	Means a legal entity or person engaged in the business of providing wharfage, dock, stowage, warehouse, or other cargo handling.
WEIGHING FACILITY	A party who provides the service of determining the gross mass of a container, either at a static place or by using mobile equipment.

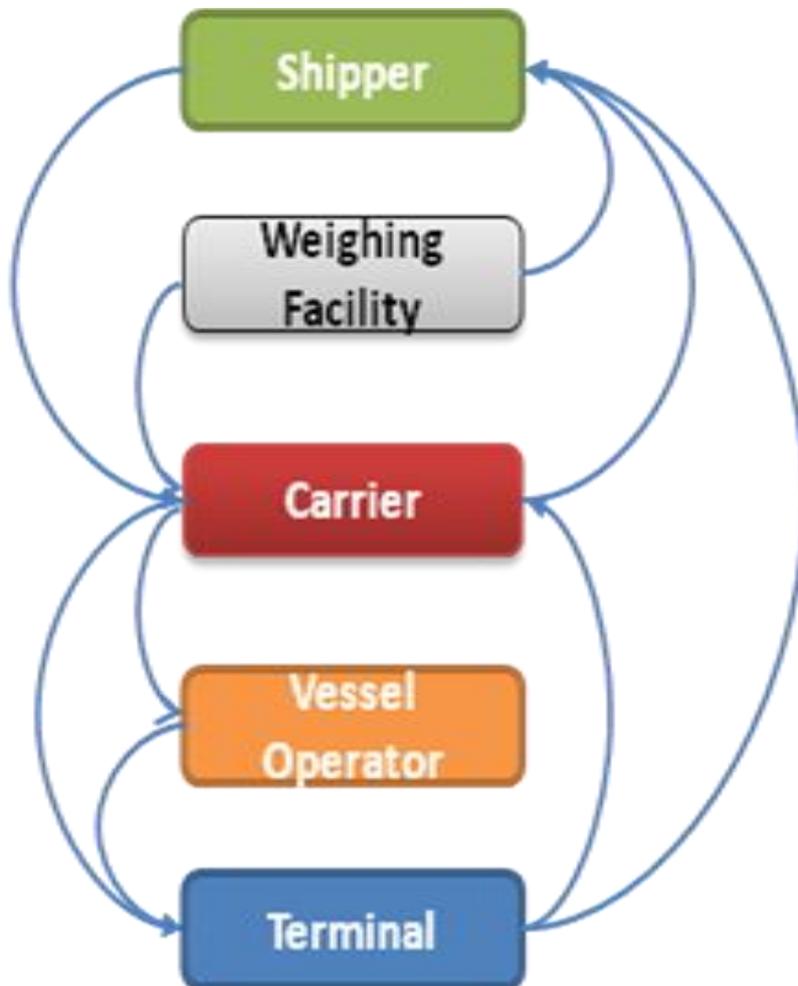
Figure 4 –Definitions of Terms

### 6.3 Business Requirements View

The BRS for Verified Gross Mass (VERMAS) is included in the ‘Ship’ part of the International Supply Chain Model.

Each of the Use Cases listed below refers to the transmission of a VGM between two parties in the transport chain.

**Diagram of Actors:**



### 6.3.1 Use Case: VGM from Shipper to Carrier

<b>Business Use Case</b>	
<b>Name</b>	<b>Shipper to Carrier</b>
<b>Description</b>	<p>The Shipper has determined the VGM himself, or he has received the VGM from a 3<sup>rd</sup> party who determined the VGM on his behalf.</p> <p>The Shipper reports the VGM to the Carrier, along with the name of the person duly authorized by the Shipper to sign the VGM document.</p> <p>The Carrier determines the related booking and assigns the VGM to the reported container in that booking. The carrier will confirm the receipt and successful processing of the VGM to the Shipper.</p>
<b>Actors</b>	Shipper, Carrier
<b>Pre-condition</b>	<p>The Shipper has booked a container for ocean transport by the carrier.</p> <p>The Shipper has determined the VGM for the container.</p> <p>VGM is awaited by the Carrier.</p>
<b>Post-condition</b>	<p>VGM received and accepted by the Carrier.</p> <p>The Shipper has performed his responsibility for VGM reporting as per SOLAS. Now the responsibility is with the Carrier to forward the VGM to the Terminal in a timely manner.</p>
<b>Exceptions</b>	Carrier cannot assign the VGM or the container to a booking.
<b>Remarks</b>	Confirmation can be given electronically via an APERAK message.

### 6.3.2 Use Case: VGM from Weighing Facility to Shipper

<b>Business Use Case</b>	
<b>Name</b>	<b>Weighing Facility to Shipper</b>
<b>Description</b>	The Shipper ordered the Weighing Facility to determine the container gross mass for one or many containers. The Weighing Facility has determined the gross mass for a container and reports it to the Shipper, along with place and date of weighing.
<b>Actors</b>	Weighing Facility, Shipper
<b>Pre-condition</b>	The Shipper ordered the Weighing Facility to determine the container gross mass for one or many containers. The Weighing Facility has determined the gross mass for a container. VGM is awaited by the Shipper
<b>Post-condition</b>	VGM received by the Shipper.
<b>Exceptions</b>	
<b>Remarks</b>	

### 6.3.3 Use Case: VGM from Weighing Facility to Carrier

<b>Business Use Case</b>	
<b>Name</b>	<b>Weighing Facility to Carrier</b>
<b>Description</b>	<p>The Shipper ordered the Weighing Facility to determine the container gross mass for one or many containers on his behalf. He instructed and authorized the Weighing Facility to report the VGM directly to the Carrier.</p> <p>The Weighing Facility has determined the gross mass for a container and reports it to the Carrier, along with place and date of weighing and the name of the Shipper on whose behalf they are acting and the name of the person who performed the weighing and the carrier's booking number.</p>
<b>Actors</b>	Weighing Facility, Carrier
<b>Stakeholders</b>	Shipper
<b>Pre-condition</b>	<p>The Shipper ordered the Weighing Facility to determine the container gross mass on his behalf and to report directly to the Carrier.</p> <p>The Weighing Facility has determined the gross mass for a container.</p> <p>VGM is awaited by the Carrier</p>
<b>Post-condition</b>	<p>VGM received and accepted by the Carrier.</p> <p>Carrier has acknowledged receipt of VGM to the Shipper.</p>
<b>Exceptions</b>	Carrier cannot assign the VGM or the container to a booking.
<b>Remarks</b>	

### 6.3.4 Use Case: VGM from Carrier to Vessel Operator

<b>Business Use Case</b>	
<b>Name</b>	<b>Carrier to Vessel Operator</b>
<b>Description</b>	The Carrier uses space on the vessel but he is not the vessel operator himself. The Carrier received the VGM from his Shipper and forwards the VGM to the Vessel Operator before the Vessel Operator begins with Stowage Planning, for one or many containers on a particular voyage and a particular port of loading.
<b>Actors</b>	Carrier, Vessel Operator
<b>Stakeholders</b>	
<b>Pre-condition</b>	The Carrier received the VGM from the Shipper who had booked the transport operation with the Carrier. VGM is awaited by the Vessel Operator
<b>Post-condition</b>	VGM received and accepted by the Vessel Operator.
<b>Exceptions</b>	Vessel Operator cannot assign the container to a voyage
<b>Remarks</b>	In a different scenario, the Vessel Operator is informed by the Terminal. <a href="#">Use Case: VGM from Terminal to Vessel Operator</a> refers.

### 6.3.5 Use Case: VGM from Carrier to Terminal

<b>Business Use Case</b>	
<b>Name</b>	<b>Carrier to Terminal</b>
<b>Description</b>	The Carrier received the VGM from his Shipper and forwards the VGM to the Terminal before the Terminal begins with Stowage Planning, for one or many containers on a particular voyage and a particular port of loading.
<b>Actors</b>	Carrier, Terminal
<b>Stakeholders</b>	
<b>Pre-condition</b>	The Carrier received the VGM from the Shipper who had booked the transport operation with the Carrier. VGM is awaited by the Terminal
<b>Post-condition</b>	VGM received and accepted by the Terminal. The container may be loaded on the ship.
<b>Exceptions</b>	Terminal cannot assign the container to a voyage
<b>Remarks</b>	

### 6.3.6 Use Case: VGM from Terminal to Vessel Operator

Business Use Case	
Name	<b>Terminal to Vessel Operator</b>
Description	The Terminal has received the VGM, for all containers on a particular voyage, from all Carriers who have cargo space allocation on the ship. Now the Terminal informs the Vessel Operator about all VGMs, before the Vessel Operator begins with Stowage Planning
Actors	Terminal, Vessel Operator
Stakeholders	Carriers
Pre-condition	The Terminal has received the VGM, for all containers on a particular voyage, from all Carriers who have space on the ship. VGM is awaited by the Vessel Operator.
Post-condition	The Vessel Operator received VGM for all containers to be loaded on his ship in a particular port.
Exceptions	
Remarks	This is a report function, not a VGM declaration. In a different scenario, the Vessel Operator is informed by the Carrier. <a href="#">Use Case: VGM from Carrier to Vessel Operator</a> refers.

### 6.3.7 Use Case: VGM from Terminal to Carrier, Terminal has weighed

<b>Business Use Case</b>	
<b>Name</b>	<b>Terminal to Carrier</b>
<b>Description</b>	<p>Container arrived at the terminal without VGM. The terminal weighed the container based on agreement with carrier.</p> <p>The terminal reports the weight so obtained to the Carrier who operates the container.</p>
<b>Actors</b>	Terminal, Carrier
<b>Stakeholders</b>	Shipper
<b>Pre-condition</b>	<p>The terminal has determined the gross weight of a container, which is operated by the Carrier.</p> <p>The Terminal has a commercial relationship with the Carrier.</p>
<b>Post-condition</b>	<p>VGM received and accepted by the Carrier. If the Carrier had obtained a VGM for the same container before, then the new weight reported by the terminal overrides the previous VGM.</p> <p>The container may be loaded on the ship.</p> <p>The Carrier will inform the Shipper about the VGM obtained by the Terminal. <a href="#">Use Case: VGM from Carrier to Shipper, Terminal has weighed</a> refers.</p>
<b>Exceptions</b>	Carrier cannot assign the VGM or the container to a booking or vessel/voyage.
<b>Remarks</b>	

### 6.3.8 Use Case: VGM from Terminal to Shipper, Terminal has weighed

<b>Business Use Case</b>	
<b>Name</b>	<b>Terminal to Shipper</b>
<b>Description</b>	<p>Upon receipt of the container at the terminal gate, the terminal has weighed the container. Reason can be that the VGM was missing at the time of gate-in, or that the terminal questions the correctness of the previously reported VGM, or that the terminal has an agreement with the shipper to weigh each container upon gate-in.</p> <p>The terminal reports the weight so obtained to the Shipper.</p>
<b>Actors</b>	Terminal, Shipper
<b>Stakeholders</b>	Carrier
<b>Pre-condition</b>	<p>The terminal has determined the gross weight of a container, which was booked by the Shipper.</p> <p>The Terminal has a commercial relationship with the Shipper.</p>
<b>Post-condition</b>	<p>VGM received and accepted by the Shipper.</p> <p>The container may be loaded on the ship.</p>
<b>Exceptions</b>	Shipper cannot assign the container to a booking.
<b>Remarks</b>	

### 6.3.9 Use Case: VGM from Carrier to Shipper, Terminal has weighed

<b>Business Use Case</b>	
<b>Name</b>	<b>Carrier to Shipper</b>
<b>Description</b>	<p>Upon receipt of the container at the terminal gate, the terminal had weighed the container. <a href="#">Use Case: VGM from Terminal to Carrier, Terminal has weighed</a> refers.</p> <p>The terminal had reported the weight so obtained to the Carrier. Now the carrier informs the Shipper about the VGM that was determined for his container.</p>
<b>Actors</b>	Carrier, Shipper
<b>Stakeholders</b>	Terminal
<b>Pre-condition</b>	<p>The terminal determined the gross weight of a container and informed the Carrier.</p> <p>The Terminal has no commercial relationship with the Shipper.</p>
<b>Post-condition</b>	VGM received and accepted by the Shipper.
<b>Exceptions</b>	
<b>Remarks</b>	