SDC Use Case B for papiNet®

Notifying two Places of Measuring of truck deliveries with roundwood from three Delivery Origins

Carrier and SDC exchange data about inbound deliveries from three delivery origins that will be measured at two places of measuring.

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1. Copyright

2. Document Version History

A change to the version history requires an update of date and version in the page header.

The numbering format is Revision.Version, where Revision is an official document release and Version exceeding 0 is an internal work document. Please note that only if the document version has suffix 0 it is an official SDC version, e.g. 1.0, 2.0, 3.0, but NEITHER 0.1, 1.2 nor 1.10. The version suffix is initialized for each new revision level.

Version	Date	Description	Signature
2.0	15-02-18	Changed title of use case and texts on cover page. Completely revisited chapter 3 and updated its sections. Updated figure 1 with delivery destinations and route legs between places of measuring and delivery destinations. Included delivery destination text in sections 3.1 and 3.2. Removed “SDC Use Case B” from all section headers. Chapter 4 Out of Scope now excludes all cases where the measurement recording system is not Doris.	JeNo
1.0	14-06-10	Initial public version	JoBj

3. SDC Use Case B "Notifying two Places of Measuring of truck deliveries with roundwood from three Delivery Origins"

3.1 Overview

This use case describes the scenario "Notifying two Places of Measuring of a truck deliveries with roundwood from three Delivery Origins". Please refer to the papiNet Data Dictionary for definitions of terms.

An empty truck loads a delivery at a Delivery Origin and continues partially loaded to the second Delivery Origin where it is loaded with a second delivery. The truck goes to the first Place of Measuring where the second delivery is measured. After unloading the second delivery at its Delivery Destination, the truck continues partially loaded to a third Delivery Origin where it is loaded with a third delivery. Finally the truck drives to the second Place of Measuring where both remaining deliveries are measured and then transported to the second Delivery Destination. The LogisticsBuyer has issued a Delivery Instruction.

The Carrier sends an e-document to SDC when a delivery has been loaded and later as the transport vehicle arrives to the Place of Measuring. SDC acts as a Service Provider and transfers relevant data to and from the Places of Measuring.

The figure below shows Use Case B:

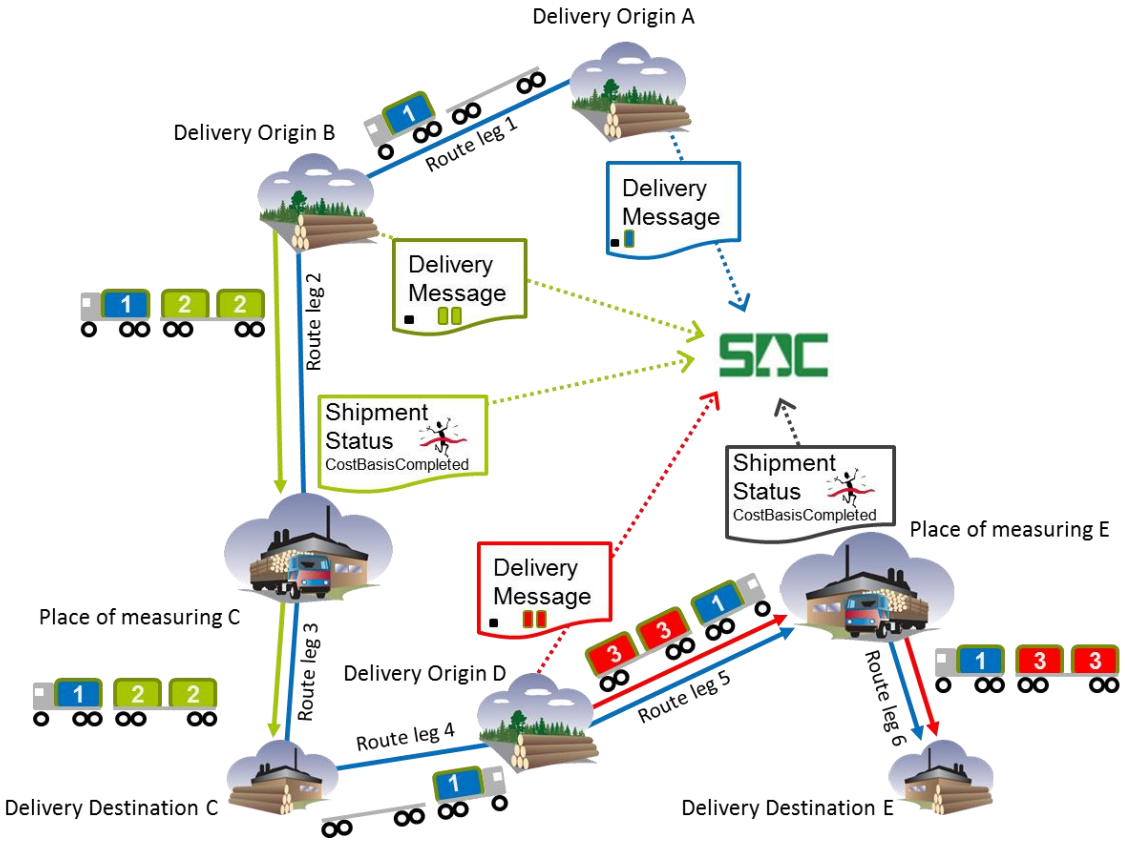

Figure 1: Logical diagram of Use Case B

Delivery Origin A. After the truck has loaded one delivery with one roundwood product (blue in figure 1) at Delivery Origin A the Carrier issues and sends a **DeliveryMessage (DeliveryMessage)** to SDC. The DeliveryMessage refers to one OrderNumber only, a

VehicleTourNumber assigned by the Carrier and the Delivery Instruction assigned by the LogisticsBuyer. It further details the Delivery Origin, the intended Place of Measuring, the Delivery Destination, estimated quantities of each product and where they are located on the transport units. Transport unit identifier(s) and transport unit type(s) must be provided for each transport unit carrying the delivery.

SDC validates the **DeliveryMessage** and verifies that provided business content is sufficient for measuring the delivery at the Place of Measuring. Then SDC responds by sending a **BusinessAcknowledgement** as an acknowledgement for the received papiNet e-document **DeliveryMessage (DeliveryMessage)**. The Business Acknowledgement has a status that confirms whether the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

Delivery Origin B. After the truck has loaded a second delivery with one roundwood product (green in the figure) at Delivery Origin B the Carrier issues and sends another original **DeliveryMessage (DeliveryMessage)** to SDC including Delivery Origin, Place of Measuring and Delivery Destination, estimated quantities of each product and where they are located on the transport units. The delivery is coloaded with the delivery from Delivery Origin A (blue in the figure). The DeliveryMessage refers to one OrderNumber only and includes the same VehicleTourNumber as in the previous delivery message, since it is the same vehicle transporting this delivery. However it has a different DeliveryMessageNumber than the previous Delivery Message.

SDC validates the **DeliveryMessage** and verifies that provided business content is sufficient for measuring the delivery at the Place of Measuring C. Then SDC responds by sending a **BusinessAcknowledgement** as an acknowledgement for the received papiNet e-document **DeliveryMessage (DeliveryMessage)**.

Place of Measuring C. As the truck arrives at this Place of Measuring the Carrier sends a **ShipmentStatus** to SDC to inform that the delivery (green in figure) is available for measuring. The document refers to the DeliveryMessage with the delivery to be measured at this place. It contains transport information that can be used as a cost basis for billing of the transport. The Carrier reports details about the truck and the transport units it has transported, carrier specific data, VehicleTourNumber, details on RouteLegs travelled since the Vehicle Tour started and deliveries carried at each RouteLeg etc. In the e-document the Carrier should report transport details that used to be communicated orally at the place of measuring, such as loading operator, various codes for zero roadside landing inventory, snow removal, distance with load etc.

SDC validates the **ShipmentStatus** and verifies that provided business content is sufficient for measuring the delivery at the Place of Measuring C. Then SDC responds by sending a **BusinessAcknowledgement** as an acknowledgement for the received papiNet e-document **ShipmentStatus**.

Delivery Destination C. After the delivery has been measured at Place of Measuring C, the truck continues to the delivery destination with the measured delivery. The product of this delivery is unloaded. Documents may be issued due to this event, but they are not specified in this use case.

The truck continues to ***Delivery Origin D.*** After the truck has loaded a third delivery with one roundwood product (red in the figure) at Delivery Origin D the Carrier sends a **DeliveryMessage (DeliveryMessage)** to SDC including Delivery Origin, Place of Measuring and Delivery Destination, estimated quantities of each product and where they are located on the transport units. The DeliveryMessage refers to one OrderNumber only and includes the same VehicleTourNumber as in the earlier delivery messages, since it is the same vehicle transporting this delivery too. However it has a different DeliveryMessageNumber than in earlier Delivery Messages.

SDC validates the **DeliveryMessage** and verifies that provided business content is sufficient for measuring the delivery at the Place of Measuring E. Then SDC responds by sending a

BusinessAcknowledgement as an acknowledgement for the received papiNet e-document **DeliveryMessage (DeliveryMessage)** with appropriate BusinessAcknowledgementStatus.

Place of Measuring E. As the truck arrives at this Place of Measuring the Carrier sends one single **ShipmentStatus** to SDC to inform that the two deliveries (red and blue in figure) are available for measuring at this Place of Measuring. The e-document refers to the both DeliveryMessages with one delivery each to be measured at this place. It also provides transport information that can be used for billing of the transport.

The Carrier reports details about the truck and the transport units it has transported, carrier specific data, VehicleTourNumber, details on RouteLegs travelled since the Vehicle Tour started and deliveries carried at each RouteLeg etc. In the e-document the Carrier should report transport details that used to be communicated orally at the place of measuring, such as loading operator, various codes for zero roadside landing inventory, snow removal, distance with load etc.

SDC validates the **ShipmentStatus** and verifies that provided business content is sufficient for measuring the delivery at the Place of Measuring. Then SDC responds by sending a **BusinessAcknowledgement** as an acknowledgement for the received papiNet e-document **ShipmentStatus)**.

Delivery Destination E. After the deliveries have been measured at Place of Measuring E, the truck continues to the delivery destination with the measured deliveries. Their products are unloaded. Documents may be issued due to this event, but they are not specified in this use case.

Throughout the supply chain the Delivery Message and Shipment Status e-documents are sent to SDC that distributes their data to the receivers.

The sequence diagram below shows the communication in SDC use case B in this example.

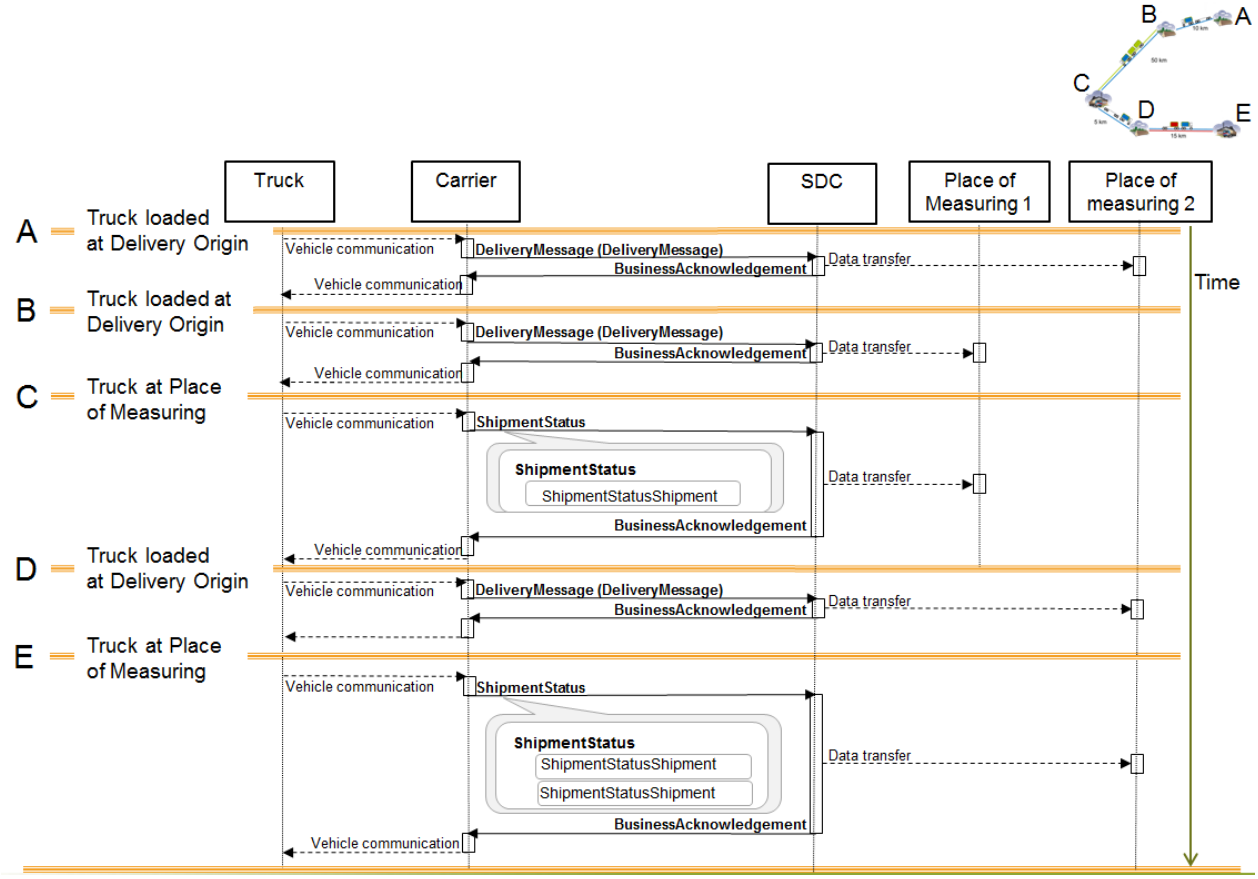

Figure 2: Sequence diagram of Use Case B

papiNet e-documents must be wrapped into the **papiNet Envelope** before they are sent to SDC. The xml-file that is sent to the receiving partner consists of the papiNet Envelope and the e-document. Routing and processing of e-documents are much easier to implement in a consistent way by using the papiNet Envelope. Attachments to the e-document can also be wrapped and sent in the papiNet Envelope. Additional transmission envelopes can be used by the message service when transmitting the message.

3.2 DeliveryMessage (DeliveryMessage) 1

When the truck has been loaded at Delivery Origin A, the truck driver communicates with the Carrier. This communication is not included in this use case. The Carrier then issues a **DeliveryMessage type DeliveryMessage** and sends it to SDC who forwards it to the system of the Measuring Party.

The most important information in the **DeliveryMessage(DeliveryMessage)** are:

- The business parts involved in the delivery
- Reference to one order number (Swedish: virkesordernummer)
- A DeliveryMessageNumber which is unique for the sender party
- The ShipTo destination of the delivery
- The place of measuring where the carrier will make the delivery available to measure.
- The product or products that are delivered and the quantities of these products.
- Information about the transport unit(s) carrying the delivery including their IDs. Typically there are two transport unit types used in road transports, RigidLorry and Trailer. A road transport may have maximum one RigidLorry and maximum two trailers. For each trailer a transport unit code must be provided that details if it is the 1st or 2nd trailer.
- Package information detailing in which log piles the products of this delivery are placed on each transport unit,
- The current Vehicle tour number
- Estimated time of arrival to the Place of Measuring

Scope: The vehicle tour starts at this logging area. The truck (actually RigidLorry) is loaded with one product in one log pile from one supply point at the logging area and is going to one place of measuring on its way to one destination.

3.3 BusinessAcknowledgement of DeliveryMessage 1

SDC responds to the sender of the **DeliveryMessage** with a **BusinessAcknowledgement** as a system acknowledgement for the received papiNet e-document **DeliveryMessage (DeliveryMessage)**. The Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

SDC validates the **DeliveryMessage** and in particular verifies that the provided business content is sufficient for measuring the delivery at the Place of Measuring.

The sender of the original e-document should have in place an error resolution process that routes the errors to the correct organisation for resolution.

3.4 DeliveryMessage (DeliveryMessage) 2

When the truck has been loaded at Delivery Origin B, the truck driver communicates with the Carrier. This communication is not included in this use case. The Carrier then issues a **DeliveryMessage type DeliveryMessage** and sends it to SDC who forwards its data to the system of the Measuring Party.

The most important information in the **DeliveryMessage (DeliveryMessage)** are:

- The business parts involved in the delivery
- Reference to one order number (Swedish: virkesordernummer)
- A DeliveryMessageNumber which is unique for the sender party
- The ShipTo destination of the delivery
- The place of measuring where the carrier will make the delivery available to measure
- The product or products that are delivered and the quantities of these products.
- Information about the transport unit(s) carrying the delivery including their IDs. Typically there are two transport unit types used in road transports, RigidLorry and Trailer. A road transport may have maximum one RigidLorry and maximum two trailers. For each trailer a transport unit code must be provided that details if it is the 1st or 2nd trailer.
- Package information detailing in which log piles the products of this delivery are placed on each transport unit,
- The current Vehicle tour number
- Estimated time of arrival to the Place of Measuring

Scope: The first trailer is loaded with one product in two log piles from one supply point at the logging area and is going to one place of measuring on its way to one destination.

3.5 BusinessAcknowledgement of DeliveryMessage 2

SDC party responds to the sender of the **DeliveryMessage** with a **BusinessAcknowledgement** as a system acknowledgement for the received papiNet e-document **DeliveryMessage(DeliveryMessage)**. Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

SDC validates the **DeliveryMessage** and in particular verifies that the provided business content is sufficient for measuring the delivery at the Place of Measuring.

The sender of the original e-document should have in place an error resolution process that routes the errors to the correct organisation for resolution.

3.6 ShipmentStatus 1

As the truck arrives at Place of Measuring C the truck driver communicates with the Carrier. This communication is not included in this use case. The Carrier then issues a **ShipmentStatus** e-document and sends it without delay to SDC who forwards its content to the system of the Measuring party before measuring can be done. The document must refer to all deliveries transported by the truck that are going to be measured at this place of measuring. In this use case there is only one delivery to measure there. The ShipmentStatus e-document is supposed to eliminate the need of oral communication between the driver and the measurer.

In the **ShipmentStatus** there must be one single ShipmentStatusShipment (SSS) per delivery message number. At this Place of Measuring (C in figure 1) there is only one delivery and hence only one ShipmentStatusShipment.

The **ShipmentStatus** contains the following information for each ShipmentStatusShipment:

- The business partners involved in the delivery
- The Place of Measuring
- Reference to DeliveryMessageNumbers communicated before
- The destination of the shipment
- Reference to VehicleTourNumber
- Attribute IsVehicleTourComplete, which says whether the Vehicle Tour will continue after this Place of Measuring or stop here.
- ShipmentEventType is Unloading
- ShipmentEventQualifier is CostBasisCompleted
- Total distance with the delivered load, if the Carrier wants to inform about this
- Information that is provided by the driver for calculating transport charges
- Other parties involved in the shipment, for example loading party.
- Actual time of arrival, when the driver considers the shipment ready for being measured
- The Route must include each RouteLeg after the VehicleTourNumber was created.
- Each RouteLeg must include:
    - RouteLegNumber in sequence after the VehicleTourNumber was created
    - RouteLegLength
    - RouteLegReference with DeliveryMessageNumber(s) of all deliveries carried on the RouteLeg if there was any delivery transported on the RouteLeg

Scope: One delivery is available to measure at a place of measuring. The Carrier reports distance with load, route legs since vehicle tour started and actual arrival time to the place of measuring. It also reports some SDC specific AdditionalItemInfo codes regarding the transport.

3.7 BusinessAcknowledgement of ShipmentStatus 1

SDC responds to the sender of the **ShipmentStatus** with a **BusinessAcknowledgement** as a system acknowledgement for the received papiNet e-document **ShipmentStatus** Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

SDC validates the **ShipmentStatus** and in particular verifies that the provided business content is sufficient for measuring the delivery at the Place of Measuring.

The sender of the original e-document should have in place an error resolution process that routes the errors to the correct organisation for resolution.

3.8 DeliveryMessage(DeliveryMessage) 3

When the truck has been loaded at Delivery Origin D, the truck driver communicates with the Carrier. This communication is not included in this use case. The Carrier then issues a **DeliveryMessage type DeliveryMessage** and sends it to SDC who forwards its data to the system of the Measuring Party.

The most important information in the **DeliveryMessage(DeliveryMessage)** are:

- The business parts involved in the delivery
- Reference to one order number (Swedish: virkesordernummer)
- A DeliveryMessageNumber which is unique for the sender party
- The ShipTo destination of the delivery
- The place of measuring where the carrier will make the delivery available to measure
- The product or products that are delivered and the quantities of these products.
- Information about the transport unit(s) carrying the delivery including their IDs. Typically there are two transport unit types used in road transports, RigidLorry and Trailer. A road transport may have maximum one RigidLorry and maximum two trailers. For each trailer a transport unit code must be provided that details if it is the 1st or 2nd trailer.
- Package information detailing in which log piles the products of this delivery are placed on each transport unit,
- The current Vehicle tour number
- Estimated time of arrival to the Place of Measuring

Scope: The first trailer is loaded with one product in two log piles from one supply point at the logging area and is going to one place of measuring on its way to one destination.

3.9 BusinessAcknowledgement of DeliveryMessage 3

The measuring party responds to the sender of the **DeliveryMessage** with a **BusinessAcknowledgement** as a system acknowledgement for the received papiNet e-document **DeliveryMessage(DeliveryMessage)**. Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

The Measuring Party validates the **DeliveryMessage** and in particular verifies that the provided business content is sufficient for measuring the delivery at the Place of Measuring.

The sender of the original e-document should have in place an error resolution process that routes the errors to the correct organisation for resolution.

3.10 ShipmentStatus 2

As the truck arrives at Place of Measuring E the truck driver communicates with the Carrier. This communication is not included in this use case. The Carrier then issues a **ShipmentStatus** e-document and sends it without delay to SDC who forwards its content to the system of the Measuring party before measuring can be done. The document must refer to all deliveries transported by the truck that are going to be measured at this place of measuring. In this use case there are two deliveries to measure there. The ShipmentStatus e-document is supposed to eliminate the need of oral communication between the driver and the measurer.

In the **ShipmentStatus** there must be one single ShipmentStatusShipment (SSS) per delivery message number. At this Place of measuring (E in figure 1) there are two deliveries and hence two ShipmentStatusShipments.

The **ShipmentStatus** contains the following information for each ShipmentStatusShipment:

- The business partners involved in the delivery
- Reference to DeliveryMessageNumbers
- The Place of Measuring
- Reference to DeliveryMessageNumbers communicated before
- The destination of the shipment
- Reference to VehicleTourNumber
- Attribute IsVehicleTourComplete, which says whether the Vehicle Tour will continue after this Place of Measuring or stop here.
- ShipmentEventType is Unloading
- ShipmentEventQualifier is CostBasisCompleted
- Total distance with the delivered load, if the Carrier wants to inform about this
- Information that is provided by the driver for calculating transport charges
- Other parties involved in the shipment, for example loading party.
- Actual time of arrival, when the driver considers the shipment ready for being measured
- The Route must include each RouteLeg after the VehicleTourNumber was created.
- Each RouteLeg must include:
    - RouteLegNumber in sequence after the VehicleTourNumber was created
    - RouteLegLength
    - RouteLegReference with DeliveryMessageNumber(s) of all deliveries carried on the RouteLeg if there was any delivery transported on the RouteLeg.

Scope: Two deliveries are available to measure at a place of measuring. The Carrier reports for each delivery the transported quantity, distance with load, route legs since vehicle tour started and actual arrival time to the place of measuring. It also reports some SDC specific AdditionalItemInfo codes regarding the transport.

3.11 BusinessAcknowledgement of ShipmentStatus 2

SDC responds to the sender of the **ShipmentStatus** with a **BusinessAcknowledgement** as a system acknowledgement for the received papiNet e-document **ShipmentStatus** Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

SDC validates the **ShipmentStatus** and in particular verifies that the provided business content is sufficient for measuring the delivery at the Place of Measuring.

The sender of the original e-document should have in place an error resolution process that routes the errors to the correct organisation for resolution.

4. Out of scope

All transport modes except road are out of scope.

All products are out of scope except roundwood and its subproducts.

Wood chip trucks are out of scope.

Any case where the measurement recording system is NOT Doris.