AgroCloSer
Implementation Instruction Data Exchange
T&T Crop Protection Products

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Author	:	AgroCloSer IT workgroup contact persons: Annika Goudswaard (ADAMA), Conny Graumans (AgroConnect)
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- 14may18, concerning the xsd's: added to TradePartyType: CityNamePostBox, CountryCodePostBox.
- 14may18: added to enumeration textFunctionTypeCode: 107= AcknowledgementRemark, 108= ConfirmationRemark.
- 14may18: added instruction for Acknowledgement-message and for Confirmation-message.
- 29mei18: added "MessagePurposeCode" in the header, to indicate whether it concerns a test message or a production message.
- 21aug18: added reading guideline for the different documents of the implementation instructions.
- 2sep19: added overview code lists.
- 12nov19: added instruction for the use of SSCC on the LogisticUnit.
- 19nov19: modified the instruction for the acknowledgement of the sales and transport order; it is no longer mandatory to return the complete order message in the acknowledgement message, returning of an order-ID reference will do.
- 30jan20: text added about SSCCs and GTINs.
- 10feb20: added explanation about DocumentStatusCode.
- 17feb20: added explanation about using SSCCs on mixed pallets.
- 8may20: sharpened instruction for re-use SSCCs.
- 22jul20: processed results of work group decisions.

Table of contents

1 Introduction

This document contains explanation, decisions, assumptions, remarks and notes that are relevant for the implementation of the digital exchange of Orders and DespatchAdvices in the crop protection products supply chain.

1.1 Reading guideline

The implementation instruction consists of several documents and files:

1) Implementation Instruction Data Exchange T&T Crop Protection Products
   That is this document.
2) Sequence diagrams T&T CPP.zip
   Contains a set of sequence diagrams, describing the data and product exchange between the different actors in the supply chain for different uses cases.
3) Class diagrams T&T CPP
   Data model describing the class diagrams for the Order and for the Despatch Advice (Delivery) messages and contains the definitions of all relevant classes and data elements. The class diagrams are used as a basis for specifying the standard xml (or Json) messages.
4) Information analysis T&T CPP.eap
   Enterprise Architect file containing the sequence diagrams and class model.
5) Xsd's and examples T&T CPP.zip
   Contains the xml schema definitions (xsd's) and xml examples of orders and despatch advice messages.
6) Excel overview of the structure of the Order message.

2 Implementation instruction

2.1 CRISTAL input

The standard AgroCloSer Order and Despatch Advice messages support the CropLife CRISTAL recommendations (Communicating Reliable Information Systems To Agriculture and Logistics):

- Cristal Common Practices For Bar Coding And Labelling Of Agro Products....pdf
- Cristal On Boarding Handbook_160117.pdf
- For these documents see: https://croplife.org .

2.2 logistic units, trade units, consumer unit.

In the supply chain different types of units are used: logistic units, trade units, consumer unit.

- A consumer unit is the smallest package that can be sold to the end consumer. This, for instance, can be a single bottle or a sack of product. A ConsumerUnit is identified by a GTIN.
- A trade unit, for instance, is a box with several of the same consumer units. A trade unit is identified by either a SSCC or a GTIN. The use of SSCC at the box level (being a trade unit from the manufacturers point of view) is possible if a single box is to be shipped. In this case the SSCC on the box has to be combined with a GTIN.
- A logistic unit is an item of any composition established for transport and/or storage which needs to be managed through the supply chain. Logistic units take many shapes; it can be a single box containing a limited number of products, a pallet of multiple products, or an intermodal container containing multiple pallets. A logistic unit can be a pallet that contains several trade units and/or consumer units. A LogisticUnit must be identified by a SSCC.

2.3 Minimum track & trace dataset for pallets

In order to describe a homogeneous pallet with one type of items or a heterogeneous pallet with different types of items, Cristal recommends to exchange the following information attached to a pallet:

1. SSCC of the pallet
2. Detailed description of pallet load. For each item/batch:
    a. Item EAN 13 (GTIN item)
    b. Batch number
    c. Production date
    d. Total quantity
3. Box number
    a. SSCC or box serial number (optional)

Remark:

- If the BL logistic part is described, details about boxes (serial number or SSCC) in the considered pallet (identified by a SSCC) must be given.
- SSCC, in the message, is optional for boxes of homogeneous pallets.
- Each box must get a mandatory serial number (can be equivalent to SSCC). The management of these numbers is not mandatory for the message receiver. Tracking is carried by the couple Batch number and Production date.

2.4 When to allocate a SSCC

SSCC stands for Serial Shipping Container Code. This code is the unique identifier (serial number) of a specific transport (the shipment of a container; box or pallet). This unique identifier is needed to connect information from different source about the content of that specific transport. For example information about how many boxes of a specific product are on a pallet and how many cans (jugs) of a specific product are in each box. This information can be used to prepare the intake of the goods. When the composition of a pallet or box changes a new SSCC needs to be created and applied.

There is always an SSCC linked to the DespatchAdvice as it is the unique number for the logistic unit (literally any means of packing) on which the product is send. Most common is any size of pallet with product on it, but the item could also be sent as it is. If it is just a single can (consumer unit) or box (trade unit) it will still have an SSCC. The SSCC label will mention X number of consumer or trade units. The pallet does not have a GTIN code itself. Meaning if a full pallet of 30 boxes is send, the SSCC label will mention 30 X trade unit GTIN.

The SSCC code supplied on the logistic unit can be re-used by the recipient warehouse, as long as the content of this logistic unit is not changed.
In case an unwrapped logistic unit is being returned to the provider, a new SSCC code needs to be applied.

The only mandatory printed data element on a label for a mixed pallet is the SSCC. It is optional to also print the number of colli (total number of trade items on the pallet) on the label.

2.5 Unique traceability details

It is mandatory to provide each logistic unit with a printed 2D matrix code.
The 2D matrix code on the package contains:

- the batch number
- the GTIN
- the production date
- the serial number (optional)

Batch number
The batch number of a product item is allocated by the manufacturer and refers to the large factory production batch quantity. This means that multiple sales units can have the same batch number.
A sales unit can be a trade unit (outer package, often a box) or an individual consumer unit (inner package, often a can or jug).

GTIN
Each sales unit has a GS1 GTIN 14 digit number (GTIN), which is the product identifier for packed products (SKU's; Stock Keeping Units).
This means that multiple sales units of the same type of product and package have the same GTIN.
A similar product receives a new GTIN when it is sold in a different pack size or with a new trade name, this makes it a new sales unit.
In case a GTIN 13 (old name EAN13) code flat barcode for sales purposes already exists a "0" is added in front of the number to turn it into a 14 digit number, this will prevent double GTIN numbers linked to the same unit.

The GTIN codes used are to be defined by the owner of the label, not by the producer/filling companies.
For example a Belchim product label will contain the Belchim Consumer and Trade Unit GTIN codes.
These codes are to be used in the related supplier ERP and warehouse systems as well.
To learn more about the GS1 standards and identifiers see the GS1 document:
https://www.gs1.nl/sites/default/files/GS1_General_Specifications_0.pdf

Production date
The production date is based on the packaging date of the sales unit.
If two different products are packed in one trade unit the production date placed on the box is the oldest date.

Serial number
Serial numbers on consumer units are optional.
Serial numbers are not required for a recall of material, as in case of a recall an entire batch needs to be taken back and not a specific consumer or trade unit of that batch.
When making use of serialisation the serial number will be added as a fourth unique value next to the GTIN, production date and batch number to each sales unit.

Relabelling
The combination of the GTIN, production date, batch number and optional serial number generates a unique 2D matrix code.

When changing the trade name of the same product, a new GTIN needs to be allocated, hence the 2D matrix contains new details and this change needs to be recorded in the ERP and applied on the consumer, trade and logistic units.
Without serialisation: one new 2D matrix needs to be created and applied for the whole batch volume.
With serialisation: for each consumer and trade unit a unique 2D matrix needs to be created and applied with keeping record of the previous serial number (the new data needs to be placed on the exact same package, it is not possible to pick another consumer/trade unit from the same batch).

2.6 Homogeneous and heterogeneous pallets

In case a pallet contains homogeneous boxes (each box contains exactly the same product), it might not be necessary to unpack the pallet and to scan all SSCC of each box. The precondition for this case is that the full content of the pallet (all SSCC's of the boxes on the pallet) is communicated by a DespatchAdvice to the receiving party, in advance of the arrival of the homogeneous pallet.

2.7 Serialisation

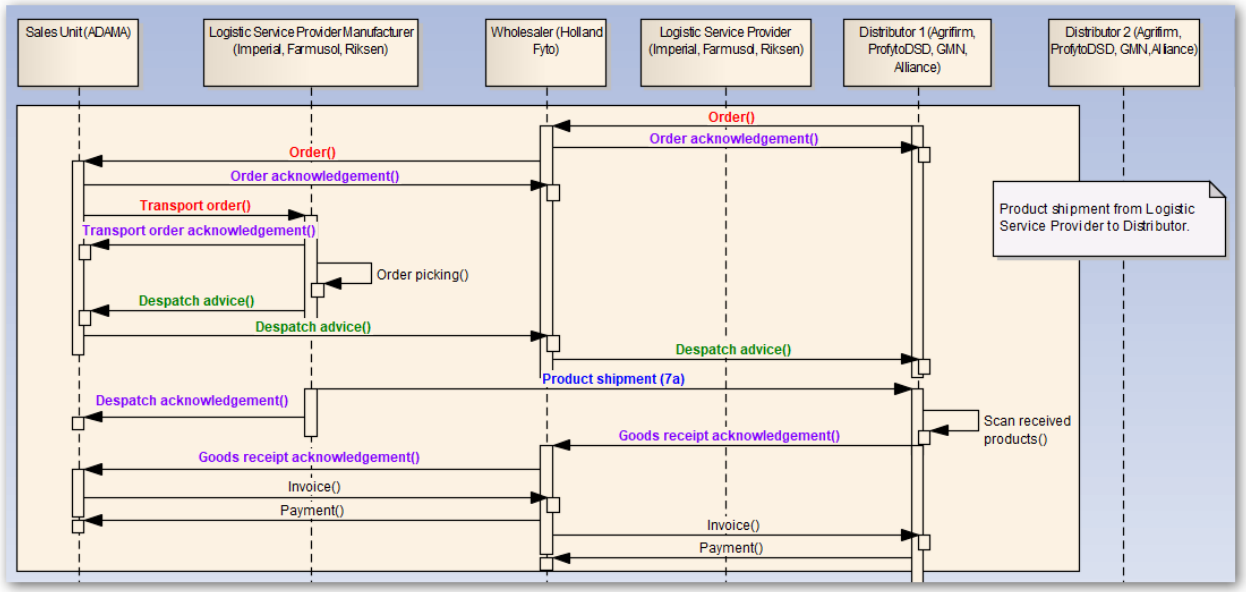
Serialisation means that each consumer unit, within the domain of the manufacturer, gets its own unique tag. A GTIN is used to uniquely identify a type of a consumer unit. In case each individual package unit needs a unique identification a GTIN is not usable, so a serial number (type of SSCC) is required.

2.8 Batch numbers on co-pack, twin-pack, multi-pack

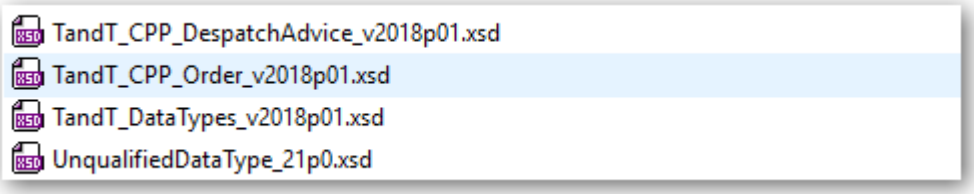
In case a co-pack, twin-pack, multi-pack contains items from different batches, then the producer needs to allocate a new batch number to this co-pack, twin-pack, multi-pack. There is no specific convention for drafting this new batch number; it is form free and could for instance be a concatenation of the batch numbers of the individual items, separated by a + sign and not exceeding 35 characters.

3 Explaining the xsd's

This sequence diagram show the dialogue within the supply chain for the first AgroCloSer use cases that are implemented by Adama en Bayer:



The xml Order and DespatchAdvice messages are specified by a set xml schema definition files (xsd's).

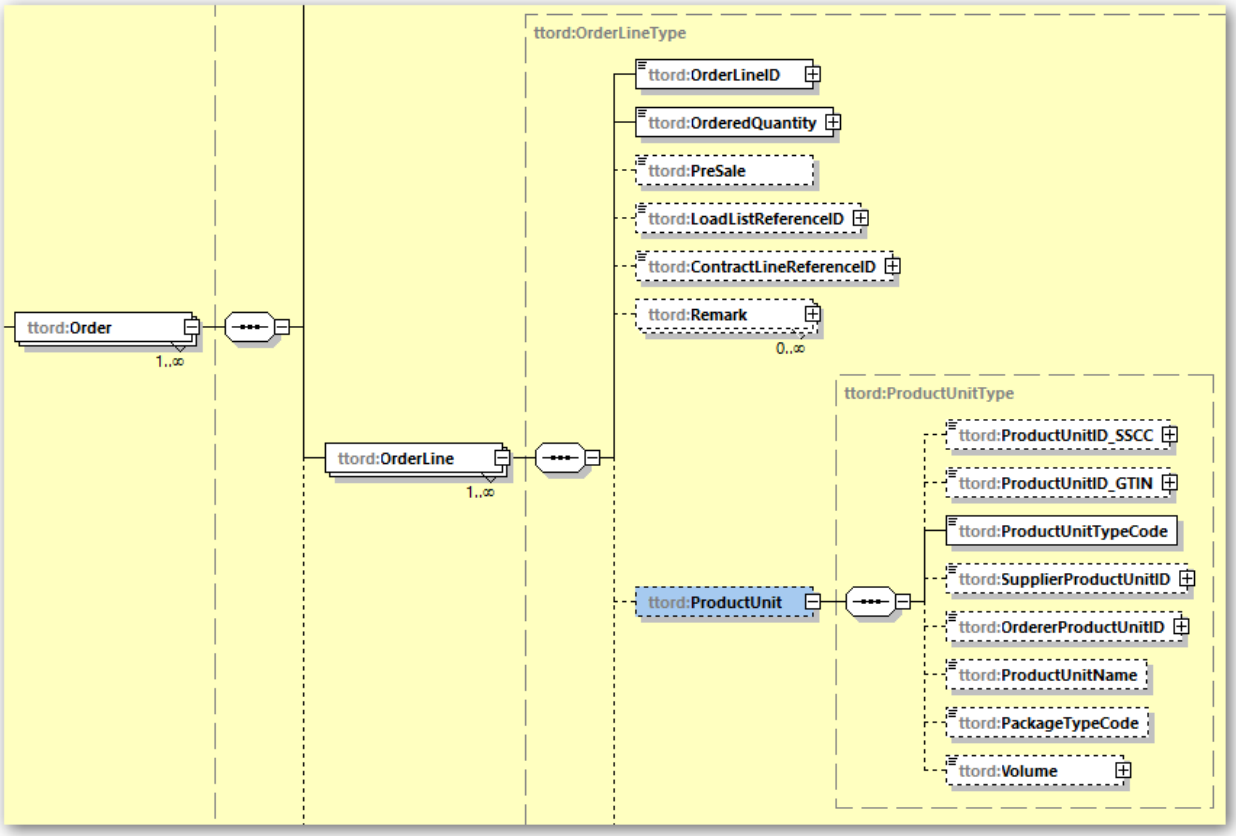


The Order and DespatchAdvice schema's import the Datatype schema's.
The Order and DespatchAdvice schema's are compliant to the Enterprise Architect class models for the Order and DespatchAdvice.

3.1 Instruction Order message

The Order message goes from distributor to wholesaler and from wholesaler to manufacturer.
Most essential in the Order message is the specification of the ordered products:

- Each Order has one to multiple OrderLine.
- Each OrderLine refers to one ProductUnit.
- Each ProductUnit is specified by a GTIN.
- OrderedQuantity specifies the quantity of the ordered ProductUnits.



Illustrated in XML:

```
<ttord:OrderLine>
    <ttord:OrderLineID schemeID="REF">OrderLineNr123456</ttord:OrderLineID>
    <ttord:OrderedQuantity unitCode="NBR">30</ttord:OrderedQuantity><!--betreft 30 dozen-->
    <ttord:ProductUnit>
        <ttord:ProductUnitID_GTIN schemeID="GTIN">23457890</ttord:ProductUnitID_GTIN>
        <ttord:ProductUnitTypeCode>103</ttord:ProductUnitTypeCode><!--betreft ConsumerUnit-->
        <ttord:ProductUnitName>Doos met 6 flessen middel X</ttord:ProductUnitName>
    </ttord:ProductUnit>
    <ttord:Timing>
        <ttord:EventTypeCode>102</ttord:EventTypeCode><!-== Deliver-->
        <ttord:EventDateTime>2018-02-15T09:30:47Z</ttord:EventDateTime>
    </ttord:Timing>
</ttord:OrderLine>
```

To specify the OrderedQuantity it is mandatory to use the attribute unitCode. unitCode must be filled with a value out of code list CL020. In the illustration NBR is used to indicate that a number of 30 units of the product type with GTIN 23457890 is ordered.

Prefixes
It is mandatory to use prefixes in the xml messages. For an Order message the prefix is ttord. For a DespatchAdvice message the prefix is ttdesp.

3.2 Instruction Transport Order message

The Transport Order message is sent by the manufacturer to the logistics provider or by the wholesaler to logistics provider.
The transport order is similar to a basic order message, with the difference that the transport order contains more detailed information about:

- the required means of transportation
- the load location and date/time of loading
- the unload location and date-time of unloading

```
<ttord:Timing>
    <ttord:EventTypeCode>101</ttord:EventTypeCode><!-- = Load-->
    <ttord:EventDateTime>2018-02-15T09:30:47Z</ttord:EventDateTime>
</ttord:Timing>
<ttord:Timing>
    <ttord:EventTypeCode>102</ttord:EventTypeCode><!-- = Deliver-->
    <ttord:EventDateTime>2018-02-17T09:30:47Z</ttord:EventDateTime>
</ttord:Timing>
```

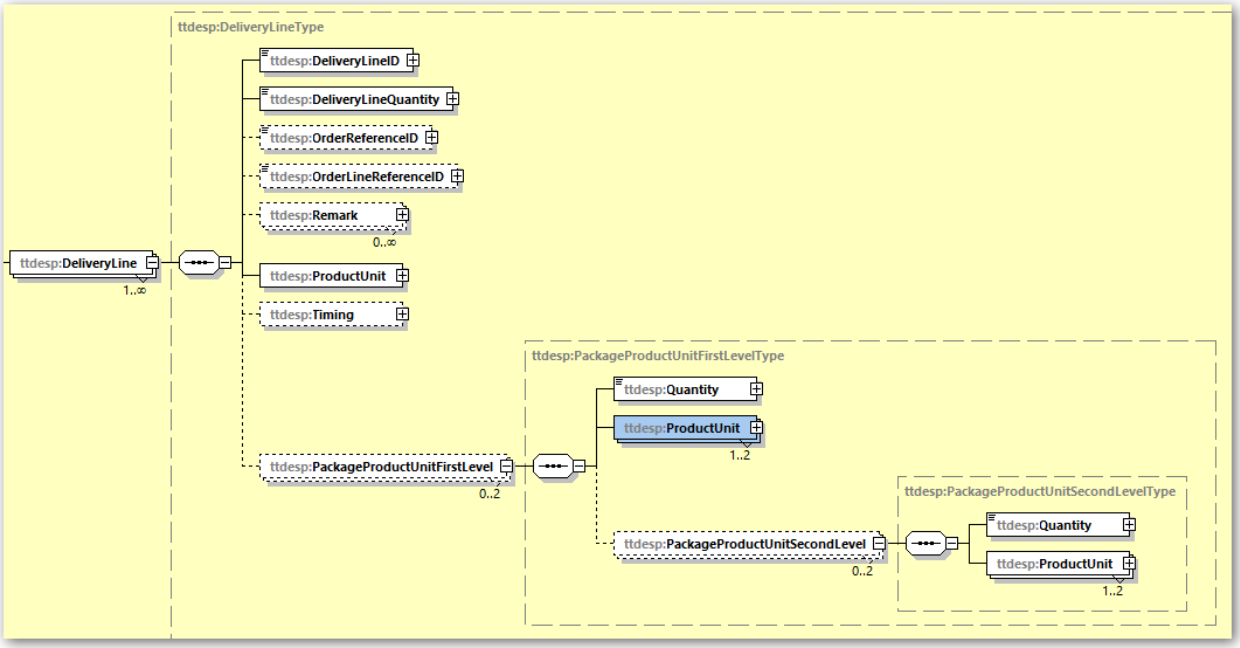
3.3 Instruction DespatchAdvice message

The DespatchAdvice message has the same basic structure as an Order message, with the difference that the DespatchAdvice message contains more detailed information about the products and packaging of the to be delivered goods, such as:

- delivery timing and instructions
- the SSCC's of pallets and boxes
- what items (GTINS) are stored on which pallet
- batch numbers and serial numbers of the individual items at the level of consumer units
- information about the weight and volume

```
<ttdesp:Delivery>
    <ttdesp:DeliveryID schemeID="REF">DEL234567</ttdesp:DeliveryID>
    <ttdesp:DeliveryStatusCode>101</ttdesp:DeliveryStatusCode><!--101= original-->
    <ttdesp:DeliveryDateTime>2018-10-10T09:30:47Z</ttdesp:DeliveryDateTime>
    <ttdesp:GrossWeight unitCode="KGM">2000</ttdesp:GrossWeight>
    <ttdesp:NetWeight unitCode="KGM">1800</ttdesp:NetWeight>
    <ttdesp:Timing>
        <ttdesp:EventTypeCode>102</ttdesp:EventTypeCode><!-- = Deliver-->
        <ttdesp:EventDateTime>2018-01-02T09:30:47Z</ttdesp:EventDateTime>
    </ttdesp:Timing>
    <ttdesp:Remark>
        <ttdesp:TextFunctionTypeCode>103</ttdesp:TextFunctionTypeCode><!-- = DeliverInstruction-->
        <ttdesp:TextLines>2e silo rechts</ttdesp:TextLines>
    </ttdesp:Remark>
    <ttdesp:MeansOfTransportation>
        <ttdesp:TransportMeansID schemeID="NUMMERPLAAT">82-ABC-89</ttdesp:TransportMeansID>
        <ttdesp:TransportMeansTypeCode>36</ttdesp:TransportMeansTypeCode><!-- = Truck, dry bulk-->
    </ttdesp:MeansOfTransportation>
```

The nesting of consumer units in boxes and boxes on pallets is specified using the construction with PackageProductUnit – First and Second Level:



In this example a LogisticUnit (a pallet) is delivered. The pallet is identified by a SSCC (4896512765432).

```
<ttdesp:DeliveryLine>
    <ttdesp:DeliveryLineID schemeID="REF">Nr123456</ttdesp:DeliveryLineID>
    <ttdesp:DeliveryLineQuantity unitCode="NBR">1</ttdesp:DeliveryLineQuantity>
    <ttdesp:OrderReferenceID schemeID="REF">Ordernr12345</ttdesp:OrderReferenceID>
    <ttdesp:OrderLineReferenceID schemeID="REF">Orderlinenr12345667</ttdesp:OrderLineReferenceID>
    <ttdesp:ProductUnit>
        <ttdesp:ProductUnitID_SSCC schemeID="SSCC">4896512765432</ttdesp:ProductUnitID_SSCC>
        <ttdesp:ProductUnitTypeCode>101</ttdesp:ProductUnitTypeCode><!-- = LogisticUnit-->
        <ttdesp:ProductUnitName>Pallet GBM voor Jansen</ttdesp:ProductUnitName>
        <ttdesp:PackageTypeCode>PA</ttdesp:PackageTypeCode><!-- = Pallet-->
        <ttdesp:ProductionDate>2001-12-17T09:30:47Z</ttdesp:ProductionDate>
        <ttdesp:ExpiryDate>2001-12-17T09:30:47Z</ttdesp:ExpiryDate>
    </ttdesp:ProductUnit>
```

The pallet contains two boxes. Each box on this pallet is specified as PackageProductUnitFirstLevel.
In this example, each box has its own GTIN (40 12345 00003 07).

```
<ttdesp:PackageProductUnitFirstLevel>
    <ttdesp:ProductUnit>
        <ttdesp:ProductUnitID_GTIN schemeID="GTIN">40 12345 00003 7</ttdesp:ProductUnitID_GTIN>
        <ttdesp:ProductUnitTypeCode>102</ttdesp:ProductUnitTypeCode><!-- = TradeUnit-->
        <ttdesp:BatchNumber>34781289</ttdesp:BatchNumber>
        <ttdesp:ProductUnitName>Doos met 8 flessen Middel X</ttdesp:ProductUnitName>
        <ttdesp:PackageTypeCode>BX</ttdesp:PackageTypeCode><!-- = Box-->
        <ttdesp:ProductionDate>2017-12-17T09:30:47Z</ttdesp:ProductionDate>
        <ttdesp:ExpiryDate>2020-12-17T09:30:47Z</ttdesp:ExpiryDate>
    </ttdesp:ProductUnit>
    <ttdesp:PackageProductUnitSecondLevel>
        <ttdesp:ProductUnit>
            <ttdesp:ProductUnitID_GTIN schemeID="GTIN">40 12345 12345 7</ttdesp:ProductUnitID_GTIN>
            <ttdesp:ProductUnitTypeCode>103</ttdesp:ProductUnitTypeCode><!-- = ConsumerUnit-->
            <ttdesp:BatchNumber>34781289</ttdesp:BatchNumber>
            <ttdesp:ProductUnitName>Fles Midddel X</ttdesp:ProductUnitName>
            <ttdesp:PackageTypeCode>BO</ttdesp:PackageTypeCode><!-- = Bottle-->
            <ttdesp:SerialNumber>PROD345678</ttdesp:SerialNumber>
            <ttdesp:ProductionDate>2017-12-31T09:30:47Z</ttdesp:ProductionDate>
            <ttdesp:ExpiryDate>2020-12-17T09:30:47Z</ttdesp:ExpiryDate>
        </ttdesp:ProductUnit>
    </ttdesp:PackageProductUnitSecondLevel>
```

To specify what items are in each box, PackageProductUnitSecondLevel is used.
In this example each bottle in the trade unit (the box) has a GTIN, a batch number and a serial number.

schemeID

In the xsd all identifying data elements, like OrderID, GlobalID, OrderLineID, are of the datatype IDType:

```
<xsd:complexType name="OrderLineType">
    <xsd:sequence>
        <xsd:element name="OrderLineID" type="udt:IDType" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="OrderedQuantity" type="udt:MeasureType" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="PreSale" type="udt:TextType" minOccurs="0" maxOccurs="1"/>
```

IDType has a special attribute attached, called schemaID, to indicate what type of schema is used to fill in the value of the identifier.

```
<xsd:simpleType name="schemeIDCode">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="REF"/>
        <xsd:enumeration value="GLN"/>
        <xsd:enumeration value="GTIN"/>
        <xsd:enumeration value="SSCC"/>
        <xsd:enumeration value="SERIAL"/>
        <!--REF= radom reference-->
        <!--GLN= Global Location Number-->
        <!--GTIN= Global Trade Item Number-->
        <!--SSCC= Serial Shipping Container Code-->
        <!--SERIAL= Serial Number-->
    </xsd:restriction>
```

In the xml-message this is represented as follows:

```
<ttord:Order>
    <ttord:OrderID schemeID="REF">ORDER_NR_234567</ttord:OrderID>
    <ttord:OrderStatusCode>101</ttord:OrderStatusCode><!--101= original-->
    <ttord:OrderReferenceID schemeID="REF">ORDER_AGRIFIRM_346789</ttord:OrderReferenceID>
    <ttord:OrderDateTime>2018-01-23T09:30:47Z</ttord:OrderDateTime>
    <ttord:DeliveryTypeCode>101</ttord:DeliveryTypeCode><!--= Normal-->
    <ttord:TradeParty>
        <ttord:GlobalID schemeID="GLN">GLN_HollandFyto</ttord:GlobalID>
        <ttord:TradePartyRoleCode>OB</ttord:TradePartyRoleCode><!--= OrderedBy-->
        <ttord:TradePartyName>HollandFyto</ttord:TradePartyName>
        <ttord:StreetNameAndNumber>Ecu 2</ttord:StreetNameAndNumber>
```

3.4 Instruction Acknowledgement message

The Acknowledgement message has its own schema definition (TandT_CPP_Acknowledgement_v2018p01.xsd).
Acknowledgement messages concern the technical processing of the received order and are not related to the content of the order.

The Order Acknowledgement message is a relatively simple message:

- concerning the message header:
  - the Acknowledgement message has its own unique Message ID;
  - SendingDateTime is the timestamp of sending the Acknowledgement message
  - SendingPartyID and ReceivingPartyID differ from the original Order message (they change places);
  - MessageType for the Acknowledgement message is '104'.
- concerning the referenced order:
  - the OrderID refers to the original Sales- or TransportOrder.
  - for OrderStatusCode only the values 103 (= accepted) or 104 (= not accepted) are allowed.
  - optional: remarks concerning the acknowledgement can be added in the message using the Remark node as part of the Order node.
  - for a Remark that concerns the acknowledgement code, 107 is used for the TextFunctionTypeCode. The remark itself is placed as free text in the TextLine field.
  - a Remark can be used to indicate why an order was rejected. Examples: XML is not well-formed, XML is not valid, GTIN SendingPartyID not known, GTIN ReceivingPartyID not known, GTIN ordered product is not known, MessageType not known.

Illustration in xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Example TandT_CPP_TransportOrder_Acknowledgement_12nov19, AgroConnect, Conny Graumans-->
<ttord:MessageHeader xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:ttord="
http://www.agroconnect.nl/Portals/10/XSDs/TandT_CPP/v2018p01/TandT_CPP_Acknowledgement_v2018p01" xsi:schemaLocation="
http://www.agroconnect.nl/Portals/10/XSDs/TandT_CPP/v2018p01/TandT_CPP_Acknowledgement_v2018p01
http://www.agroconnect.nl/Portals/10/XSDs/TandT_CPP/v2018p01/TandT_CPP_Acknowledgement_v2018p01.xsd">
    <ttord:MessageID schemeID="REF">ACK3809371>token</ttord:MessageID>
    <ttord:SendingDateTime>2019-11-12T15:25:47Z</ttord:SendingDateTime>
    <ttord:SendingPartyID schemeID="GLN">8719333007229</ttord:SendingPartyID><!--GLN Farmusol-->
    <ttord:ReceivingPartyID schemeID="GLN">8718077000008</ttord:ReceivingPartyID><!--GLN ADAMA-->
    <ttord:MesssageType>104</ttord:MesssageType><!--104= Acknowledgement-->
    <ttord:Order>
        <ttord:OrderID schemeID="REF">3809371</ttord:OrderID><!--reference to the TransportOrder message that was received-->
        <ttord:OrderStatusCode>104</ttord:OrderStatusCode><!--104= mesage was not accepted-->
        <ttord:OrderDateTime>2019-11-12T13:00:47Z</ttord:OrderDateTime><!--DateTime of the original TransportOrder-->
        <ttord:TradeParty>
            <ttord:GlobalID schemeID="GLN">8719333007229</ttord:GlobalID><!--Farmusol-->
            <ttord:TradePartyRoleCode>WH</ttord:TradePartyRoleCode><!--= WarehouseKeeper that accepted or declined the TransportOrder-->
            <ttord:TradePartyName>Farmusol B.V.</ttord:TradePartyName>
        </ttord:TradeParty>
        <ttord:Remark>
            <ttord:TextFunctionTypeCode>107</ttord:TextFunctionTypeCode><!--107= AcknowledgementRemark-->
            <ttord:TextLines>String</ttord:TextLines>
        </ttord:Remark>
    </ttord:Order>
</ttord:MessageHeader>
```

TextFunctionTypeCode is used to indicate the context of the Remark:

```
<xsd:simpleType name="textFunctionTypeCode">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="101"/>
        <xsd:enumeration value="102"/>
        <xsd:enumeration value="103"/>
        <xsd:enumeration value="104"/>
        <xsd:enumeration value="105"/>
        <xsd:enumeration value="106"/>
        <xsd:enumeration value="107"/>
        <xsd:enumeration value="108"/>
        <xsd:enumeration value="999"/>
        <!--101= ShipToCommunication-->
        <!--102= WarehouseInstruction-->
        <!--103= DeliverInstruction-->
        <!--104= DespatchAdviceHeader/CMR-->
        <!--105= InvoiceInstruction-->
        <!--106= PaymentTerm-->
        <!--107= AcknowledgementRemark-->
        <!--108= ConfirmationRemark-->
        <!--999= Free text-->
    </xsd:restriction>
</xsd:simpleType>
```

Text lines concerning the Acknowledgement can be added as follows:

```
<ttord:Remark>
    <ttord:TextFunctionTypeCode>107</ttord:TextFunctionTypeCode><!--AcknowledgementRemarkt-->
    <ttord:TextLines>GTIN ReceivingPartyID not known</ttord:TextLines>
</ttord:Remark>
<ttord:Remark>
    <ttord:TextFunctionTypeCode>107</ttord:TextFunctionTypeCode><!--AcknowledgementRemarkt-->
    <ttord:TextLines>GTIN ordered product is not known</ttord:TextLines>
</ttord:Remark>
```

3.5 Instruction Confirmation message

The Conformation message has the same structure as the Order message and is based on the same schema definition (TandT_CPP_Order_v2018p01.xsd).

The Confirmation is used to report back to the party that send the order, about how the Order was processed in the back office.
If the original Order can be fully executed as requested by the ordering party, than the Conformation message contains an exact copy of the original order.
In case the original order cannot be exactly executed, the Conformation message contains the modified (sales) order. The order can differ from the original purchase order because:

- products might be out of stock
- it cannot be delivered on the requested date/time
- etc.

In the header of the Confirmation message, MessageType is used to indicate that it concerns a Confirmation.

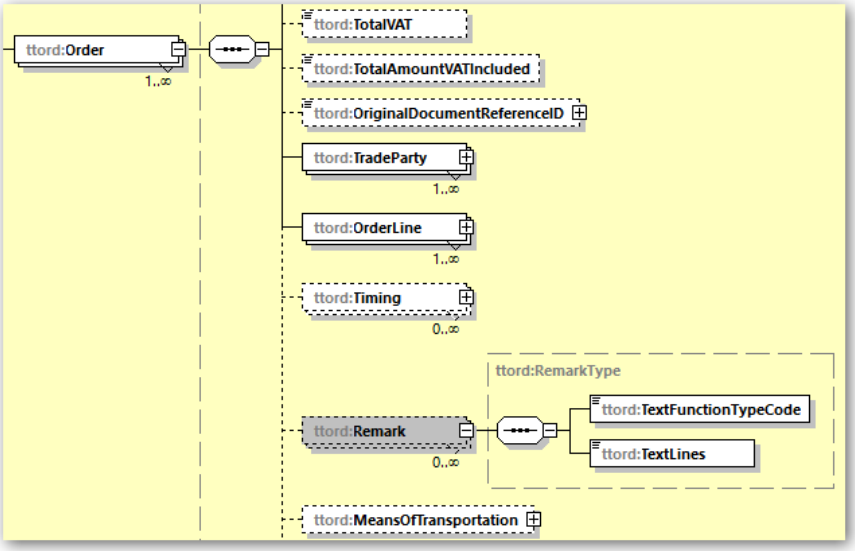
```
<ttord:MessageID schemeID="REF">MES89301</ttord:MessageID>
<ttord:SendingDateTime>2018-01-10T09:30:47Z</ttord:SendingDateTime>
<ttord:SendingPartyID schemeID="GLN">8718077000008</ttord:SendingPartyID><!--GLN ADAMA-->
<ttord:ReceivingPartyID schemeID="GLN">8719324290005</ttord:ReceivingPartyID><!--GLN HollandFyto-->
<ttord:MesssageType>105</ttord:MesssageType><!--= Confirmation-->
<ttord:Order>
    <ttord:OrderID schemeID="REF">1808219</ttord:OrderID>
    <ttord:OrderStatusCode>105</ttord:OrderStatusCode><!--105= change-->
    <ttord:OrderDateTime>2018-02-26T09:30:47Z</ttord:OrderDateTime>
    <ttord:DeliveryTypeCode>101</ttord:DeliveryTypeCode><!--= Normal-->
    <ttord:DeliveryReferenceID schemeID="REF">3808392</ttord:DeliveryReferenceID>
    <ttord:CurrencyID>EUR</ttord:CurrencyID>
    <ttord:TradeParty>
        <ttord:GlobalID schemeID="GLN">8719324290005</ttord:GlobalID>
        <ttord:TradePartyRoleCode>OB</ttord:TradePartyRoleCode><!--= OrderedBy-->
        <ttord:TradePartyName>HollandFyto</ttord:TradePartyName>
    </ttord:TradeParty>
    <ttord:TradeParty>
        <ttord:GlobalID schemeID="GLN">8719324290227</ttord:GlobalID>
        <ttord:TradePartyRoleCode>IV</ttord:TradePartyRoleCode><!--= ToBeInvoiced-->
        <ttord:TradePartyName>HollandFyto</ttord:TradePartyName>
```

Mandatory element in the Confirmation message are:

- MessageID: contains the confirmation number.
- OrderID: refers to the OrderID (order number) of the original order that was received.
- TradeParties: for buyer and supplier
- OrderStatusCode: e.g. 105 for ‘change’:

```
<xsd:simpleType name="documentStatusCode">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="101"/>
        <xsd:enumeration value="102"/>
        <xsd:enumeration value="103"/>
        <xsd:enumeration value="104"/>
        <xsd:enumeration value="105"/>
        <!--101= original-->
        <!--102= revised version-->
        <!--103= accepted-->
        <!--104= not accepted-->
        <!--105= change-->
    </xsd:restriction>
</xsd:simpleType>
```

Remarks concerning the confirmation can be added in the message using the Remark node as part of the Order node:



TextFunctionTypeCode can be used to indicate the context of the Remark:

```
<xsd:simpleType name="textFunctionTypeCode">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="101"/>
        <xsd:enumeration value="102"/>
        <xsd:enumeration value="103"/>
        <xsd:enumeration value="104"/>
        <xsd:enumeration value="105"/>
        <xsd:enumeration value="106"/>
        <xsd:enumeration value="107"/>
        <xsd:enumeration value="108"/>
        <xsd:enumeration value="999"/>
        <!--101= ShipToCommunication-->
        <!--102= WarehouseInstruction-->
        <!--103= DeliverInstruction-->
        <!--104= DespatchAdviceHeader/CMR-->
        <!--105= InvoiceInstruction-->
        <!--106= PaymentTerm-->
        <!--107= AcknowledgementRemark-->
        <!--108= ConfirmationRemark-->
        <!--999= Free text-->
    </xsd:restriction>
</xsd:simpleType>
```

For a Remark that concerns a confirmation, code 108 is used. The remark itself is places as free text in the TextLines field.

4 Implementation notes Order and DespatchAdvice

4.1 Return orders

For return orders, the standard Order message type is used.
The number of items in the return order (OrderedQuantity in OrderLine) should be indicated as a positive integer.
In case of a return order MessageHeader -> MessageType should be 107 (= sales-return-order).
It is recommended to also include in the return order the 'batch number' (OrderLine -> ProductUnit -> BatchID) and the 'supplier invoice' (OrderLine -> ProductUnit -> InvoiceReferenceID).

4.2 SSCC's

There is always an SSCC linked to the DespatchAdvice message, as it is the unique number for the logistic unit (literally any means of packing) on which the product is send. Most common is any size of pallet with product on it, but could also be sent as it is. If it is just a single can (consumer unit) or box (trade unit) it will still have an SSCC. The SSCC label will mention X number of consumer or trade units. The pallet does not have a GTIN code itself. Meaning if a full pallet of 30 boxes is send, the SSCC label will mention 30 X trade unit GTIN.
In case boxes are delivered to small distributors that are not able to receive and process DespatchAdvice messages, it is not mandatory to allocate SSCC's to these boxes.

4.3 Reference end consumer in Order message

In order to be able to link a delivery (a DespatchAdvice message) to the original order(s) it is important to include the order-reference identifier in the DespatchAdvice.
In some cases there might be a string of orders (from consumer to distributor to wholesaler to supplier) and is it not required to include all these different order numbers in the DespatchAdvice message; most ERP systems only support the registration of one order reference number.

To cope with this issue it is decided to concatenate the previous order numbers into one string in the data field EndCustomerOrderLineReferenceID. Each of the order numbers in the concatenated string need to be separated by the vertical bar character (the pipe sign : |). So for instance: 1234567|45671278|56892345. Starting with the order number of the end customer en working towards the order number of the wholesaler.

4.4 Measurement type

For calculations and for display of processes, amounts and quantities a minimal number of decimals is recommended:

- Unit prices: 3 decimals
- Amounts: 2 decimals
- Quantities: 3 decimals

4.5 Standard classifications and code lists

Relevant external code lists that are uses in the standard AgroCloser messages are to be found at:

- http://www.gs1.se/en/our-standards/Technical-documentation/code-lists/
- https://www.unece.org/cefact/codesfortrade/codes_index.html

4.6 DocumentStatusCode

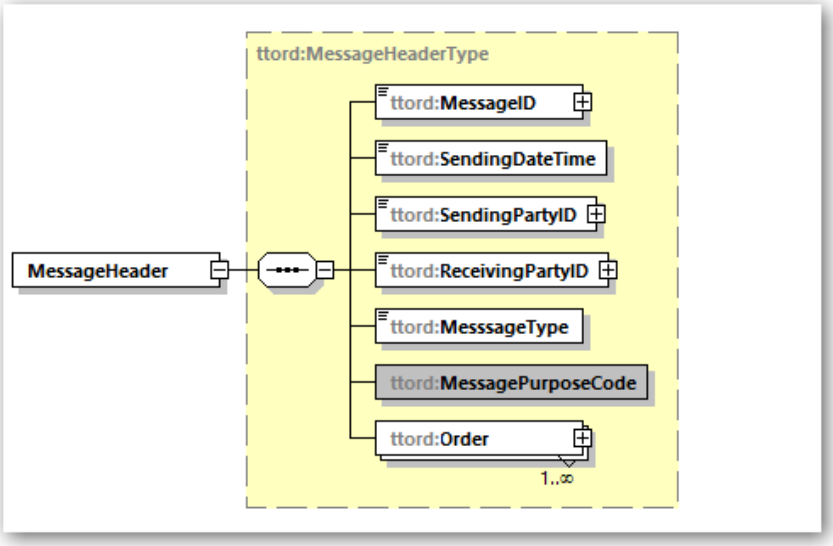
In the Order-message OrderStatusCode is used and in the DespatchAdvice-message DeliveryStatusCode is used to indicate the status of the Order or of the DespatchAdvice. OrderStatusCode and DeliveryStatusCode are of the same data type called documentStatusCode.
The enumeration for documentStatusCode is:

code	meaning	Order	DespatchAdvice	Acknowledgement	Confirmation
101	original	allowed	allowed		allowed
102	revised version	allowed	allowed		allowed
103	accepted			allowed	
104	not accepted			allowed	
105	change	allowed	allowed		
106	message is to be deleted	allowed	allowed		

The table shows for what type of message what code is allowed to be used.
So for an original (initial) Order or DespatchAdvice message 101 should be used. For an updated Order or DespatchAdvice , the modified message should be send using the same OrderID or DespatchAdviceID and using OrderStatusCode = 102 (revised version).
In the Acknowledgement message 103 or 104 should be used.
For OrderID in the ConfirmationOrder use the OrderID of the original inbound Order this ConfirmationOrder relates to. For documentStatusCode than use 105 (Change).

4.7 For test or production

To indicate whether a message is a test message or a production message , MesagePurposeCode is used.

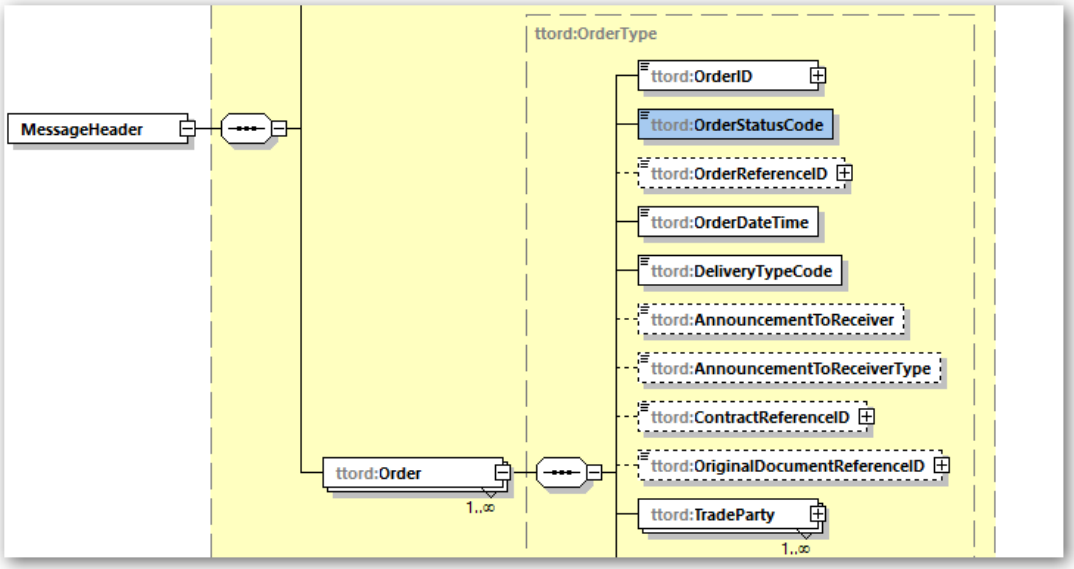



```
<xsd:simpleType name="messagePurposeCodeCode">
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="47"/>
        <xsd:enumeration value="53"/>
        <!--47= for production, definitive-->
        <!--53= test-->
    </xsd:restriction>
</xsd:simpleType>
```

```
<?xml version="1.0" encoding="UTF-8"?>
<ttord:MessageHeader xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:
http://www.agroconnect.nl/Portals/10/XSDs/TandT_CPP/v2018p01/TandT_CPP_Order_v201
http://www.agroconnect.nl/Portals/10/XSDs/TandT_CPP/v2018p01/TandT_CPP_Order_v201
http://www.agroconnect.nl/Portals/10/XSDs/TandT_CPP/v2018p01/TandT_CPP_Order_v201
   <ttord:MessageID schemeID="REF">IO0000330366</ttord:MessageID>
   <ttord:SendingDateTime>2018-05-14T12:43:13Z</ttord:SendingDateTime>
   <ttord:SendingPartyID schemeID="GLN">8719324290005</ttord:SendingPartyID>
   <ttord:ReceivingPartyID schemeID="GLN">8718077000008</ttord:ReceivingPartyID>
   <ttord:MesssageType>101</ttord:MesssageType>
   <ttord:MessagePurposeCode>53</ttord:MessagePurposeCode>
   <ttord:Order>
      <ttord:OrderID schemeID="REF">0000330366</ttord:OrderID>
      <ttord:OrderStatusCode>101</ttord:OrderStatusCode>
```

4.8 Order update

When the order is updated, a new, revised order message will be send. In the new order it is that it replaces a previous order (include a reference to the previous order, and indicate by a status attribute that it is a replacement for a previous order).
To indicate that an order is a replacement of an earlier send order two special data-element are used:



The OrderStatusCode indicates whether it concerns the original document or a revised version.
In case it concerns a revised version OrderStatusCode = 102), OrderReferenceID needs to be filled with the identification (order number) of the previous order that needs to be replaces by this revised order.
The same goes for the delivery message (Despatch advice).

```
<xsd:simpleType name="documentStatusCode">
   <xsd:restriction base="xsd:string">
      <xsd:enumeration value="101"/>
      <xsd:enumeration value="102"/>
      <!--101= original-->
      <!--102= revised version-->
   </xsd:restriction>
</xsd:simpleType>
```

OrderSatusCode and OrderReferenceID might not be needed if it is agreed that when an order is send in with the same OrderID, the previously received order with this same OrderID must be replaced by this newly received version.

4.9 Ordered quantity

All items should me ordered using the GTIN to identify the ordered item. Only products with a GTIN can be ordered. Ann ordered product can be a consumer unit or a trade unit, indicated by ProductUnitTypeCode (102= TradeUnit, 103= ConsumerUnit).
The unit of ordered quantity should always be NBR (number) to indicate the amount (the number of items) that is ordered, and not e.g. LTR, KGM.

```
<ttord:OrderedQuantity unitCode="NBR">30</ttord:OrderedQuantity><!--betreft 30 dozen-->
<ttord:ProductUnit>
    <ttord:ProductUnitID_GTIN schemeID="GTIN">23457890</ttord:ProductUnitID_GTIN>
    <ttord:ProductUnitTypeCode>103</ttord:ProductUnitTypeCode><!--betreft ConsumerUnit-->
    <ttord:ProductUnitName>Doos met 6 flessen middel X</ttord:ProductUnitName>
</ttord:ProductUnit>
```

ADAMA prefers to have the desired delivery time in the order as a time slot with a begin and end date-time:

```
<ttord:Timing>
    <ttord:EventTypeCode>102</ttord:EventTypeCode><!--= Deliver-->
    <ttord:EventBeginDateTime>2018-03-15T09:30:47Z</ttord:EventBeginDateTime>
    <ttord:EventEndDateTime>2018-03-15T10:30:47Z</ttord:EventEndDateTime>
</ttord:Timing>
```

ADAMA prefers to receive the comments in de Order messages only at Order-level and not at OrderLine level.
Complete Business Solutions takes care of implementing the data exchange interface on the het ADAMA SAP Standard Business One environment:

- sales-orders will be pushed from the Proagrica platform to SBO.
- REST-xml is used for the exchange protocol.
- on SBO a new webservice adaptor will be developed; therefore it is not necessary to implement the Proagrica Interlock Adaptor.

Appendix A: Overview code list to be used in standard messages

The following code lists are to be used in de standard T&T CPP messages.

code list	to be used in data elements	source(s)	comments
countryCode	CountryCode	►ISO 3166	ISO code of the country of the physical address.
currencyCode	CurrencyID	►ISO_ISO3AlphaCurrencyCode_2012-08-31.xsd	Code for the currency that is used to express a financial amount.
documentStatusCode	InvoiceStatusCode	►AgroConnect: CL602	Indication of the status of the exchanged document. 'Original' and 'Revised version' are used in the Order and DespatchAdvice message. 'Accepted', 'Not accepted' and 'Denied' are used in the Acknowledgement and Confirmation message.
eventTypeCode	EventTypeCode	►AgroConnect: CL606	Indication of the type of event for this specific timestamp or for this specific timeslot.
measurementUnitCode	GrossWeight NetWeight	►UNECE_MeasurementUnitCommonCodeVolume_4.xsd ►UNECE_MeasurementUnitCommonCodeWeight_4.xsd rec20-08052015 ►UnitsOfMeasurementRev9e_2014.xls	Must use the UNECE / ISO standard codes for types of measurements. Code NBR (Number) is added to the standard list (could be replaced by C62 = 1 unit).
messageTypeCode	MessageType	►AgroConnect: CL601	Specification of the type of message; can be an Order or a DespatchAdvice message.
messagePurposeCode	MessagePurposeCode	►UNECE_MessageFunctionCode_D16B.xsd	Indication of the purpose of this message. Codes are picked from
packageTypeCode	PackageTypeCode	►UNECE_PackageTypeCode_2006.xlsx ►http://www.unece.org/uncefact/codelist/standard/UNECE_PackageTypeCode_2006.xsd	Must use the UN/Cefact coding.
productUnitTypeCode	ProductUnitTypeCode	►AgroConnect: CL605	Indicates whether the ProductUnits is a LogisticUnit, a TradeUnit or a ConsumerUnit.
schemeIDType	SchemaID	►AgroConnect: CL604	Identifying data-elements, like OrderID, GlobalISD, OrderLineID, are of the datatype, called IDType. IDType has a special attribute attached, called schemaID, to indicate what type of schema is used to fill in the value of the identifier.
textFunctionTypeCode	TextFunctionTypeCode	►AgroConnect: CL603	Indicates the type of event that is commented such as a warehouse instruction or a delivery instruction.
tradePartyRoleCode	TradePartyRoleCode	►UNECE 3035: UNECE_PartyRoleCode_D16B.xsd ►gs1:gdd:cl:PartyRoleCode	Indicates the role of the party in this trade event. For instance the seller, buyer, transporter or the party to be invoiced.
transportMeansTypeCode	TransportMeansTypeCode	►UNECE_TransportMeansTypeCode_2007.xsd	Specification of the type of carrier that is used (e.g. a lorry, a vessel, etc.).