Fighting Illicit Trade with EPCIS Application Standard

Exchange of visibility event data to combat illicit trade

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1 Document Summary

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3 Log of Changes

Release	Date of Change	Changed By	Summary of Change
1.0	May 2019	Craig Alan Repec	- Original publication based upon GSMP WR 19-075

Release	Date of Change	Changed By	Summary of Change
1-1	7 Oct 2019	Craig Alan Repec	WR 19-279 Miscellaneous updates to reflect stakeholder input, including: - restriction of certain fields to ISO 8859-15 character set - deletion of note in “assumptions” section regarding derivation of upui_2 from the UPUI EPC URI encodings in the epcList of the Object Event - section explaining mandatory eventID - section explaining FIT disaggregations - upui2 example identifiers - reference to TDS replaces most of section 4

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1 FIT in the context of visibility event data and EPCIS

This application standard explains how to implement the GS1 EPCIS standard to combat illicit trade, particularly in the context of EU 2018/574.

1.1 Introduction

This GS1 normative application standard explains how to apply EPCIS to depict product movement in the context of messages 3.1–3.7 listed in Annex II of EU 2018/574.

This application standard leverages GS1's existing EPCIS and CBV standards, and introduces new, FIT-specific GS1 normative content where necessary. It will result in subsequent additions to Core/ Comprehensive Business Vocabulary (CBV) upon the latter's next release.

In parallel, GS1's *EPC Tag Data Standard* (TDS) has been updated (TDS v 1.12) to include the Unit Pack Unique Identifier (UPUI) EPC URI for pack identification purposes in EPCIS-based events.

1.2 Scope of enhancements to foundational EPCIS & CBV specifications

1.2.1 FIT messages covered by EPCIS events

The FIT application standard will provide EPCIS event specifications for each of the relevant Annex II messages, according to the following proposal:

3.1. **Application of unit level UIs on unit packets** will be captured as an EPCIS Object Event (business step "Commissioning")

3.2. **Application of aggregated level UIs on aggregated packaging** will be captured as an EPCIS Aggregation Event (business step "Packing")

3.3. **Dispatch of tobacco products from a facility** will be captured as an EPCIS Object Event (business step "Shipping")

3.4. **Arrival of tobacco products at a facility** will be captured as an EPCIS Object Event (business step "Receiving")

3.5. **Trans-loading** will be captured as an EPCIS Object Event (business step "Transloading")

3.6. **Disaggregation of aggregated level UIs** will be captured as an EPCIS Aggregation Event (business step "Unpacking")

3.7. **Report of delivery carried out with a vending van to a retail outlet** will be captured as an EPCIS Object Event (business step "Arriving")

5. **Recalls of requests, operational and transactional messages** are accommodated by means of the EPCIS Error Declaration mechanism.

1.2.2 Enhancements to foundational CBV vocabulary

In addition to EPCIS event specifications for each of the relevant Annex II messages, the aforementioned FIT application standard will include the following new normative EPCIS event **vocabulary within the FIT namespace**:

- "messageType" (ALL FIT messages, 3.1-3.7) (*payload restricted to ISO 8859-15 character set*)
- "eoid" (ALL FIT messages, 3.1-3.7)
- "fid" (ALL FIT messages, 3.1-3.7)
- "aggregationType" (FIT message 3.2)
- "uiType" (FIT messages 3.3, 3.4, 3.5, 3.7)
- "destinationID1" (FIT messages 3.3, 3.5)
- "destinationID" (FIT messages 3.3, 3.5)
- "destinationID5name" (FIT messages 3.3, 3.5) (*ISO 8859-15 character set)*
- "destinationID5streetAddressOne" (FIT messages 3.3, 3.5) (*ISO 8859-15 character set)*
- "destinationID5streetAddressTwo" (FIT messages 3.3, 3.5) (*ISO 8859-15 character set)*
- "destinationID5city" (FIT messages 3.3, 3.5) (*ISO 8859-15 character set)*
- "destinationID5postalCode" (FIT messages 3.3, 3.5) (*ISO 8859-15 character set)*
- "destinationID5countryCode" (FIT messages 3.3, 3.5)
- "transportMode" (FIT messages 3.3, 3.5)
- "transportVehicle" (FIT messages 3.3, 3.5) (*ISO 8859-15 character set)*
- "transportCont2" (FIT messages 3.3, 3.5)
- "transportS1" (FIT message 3.3)
- "transportS2" (FIT message 3.3) (*ISO 8859-15 character set)*
- "emcsARC" (FIT message 3.3, 3.5)
- "saadNumber" (FIT message 3.3) (*ISO 8859-15 character set)*
- "expDeclarationNumber" (FIT message 3.3)
- "productReturn" (FIT message 3.4)
- "upui2" (FIT message 3.1)
- "comment" (ALL FIT messages, 3.1-3.7) (*ISO 8859-15 character set)*

(see also section 2.4.5.2, "Overview of FIT extensions")

1.2.3 Restriction of certain fields to ISO 8859-15 character set

The payload of each field identified in Annex II as Data Type “Text” is **restricted to the ISO 8859-15 character set**. In summary, this applies to **the following EPCIS fields**, by message:

3.1 EUA (Commissioning)
<fit:messageType>
<fit:comment>

3.2 EPA (Packing)
<fit:messageType>
<fit:comment>

3.3 EDP (Dispatch)
<fit:messageType>
<fit:destinationID5name>
<fit:destinationID5streetAddressOne>
<fit:destinationID5streetAddressTwo>
<fit:destinationID5city>
<fit:destinationID5postalCode>28934</fit:destinationID5postalCode>
<fit:transportVehicle>
<fit:transportS2>
<fit:saadNumber>
<fit:comment>

3.4 ERP (Receiving)
<fit:comment>

3.5 ETL (Transloading)
<fit:messageType>
<fit:comment>

3.6 EUD (Unpacking)
<fit:messageType>
<fit:comment>

3.7 EVR (Arriving)
<fit:messageType>
<fit:comment>

1.3 Assumptions regarding implicit handling of Annex II fields not included in "*FIT with EPCIS*"

1.3.1 "transportCont1" (Annex II messages 3.3, 3.5)

Annex II field "transportCont1" (indication if the transport is containerised and uses an individual transport unit code) is rendered superfluous by the inclusion or omission of the "transportCont2" field in the EPCIS event; **inclusion of "transportCont2"** implies a "**Yes**" value for "transportCont1", while **omission of "transportCont2"** implies a "**No**" value for "transportCont1".

1.3.2 "saad" (Annex II message 3.5)

Annex II field "saad" (Dispatch with a simplified accompanying document, per Commission Regulation EEC No 3649/92) is rendered superfluous by the inclusion or omission of the "**saadNumber**" field in the EPCIS event.

Inclusion of "saadNumber" implies a "**Yes**" value for "saad";

omission of "saadNumber" implies a "**No**" value for "saad".

1.3.3 "expDeclaration" (Annex II message 3.3)

Annex II field "expDeclaration" (Indication if the Movement Reference Number (MRN) has been issued by the customs office) is rendered superfluous by the inclusion or omission of the "**expDeclarationNumber**" field in the EPCIS event.

Inclusion of "expDeclarationNumber" implies a "**Yes**" value for "expDeclaration";

omission of "expDeclarationNumber" implies a "**No**" value for "expDeclaration".

1.3.4 "emcs" (Annex II message 3.3)

Annex II field "emcs" (Dispatch under the Excise Movement and Control System, EMCS) is rendered superfluous by the inclusion or omission of the "**emcsARC**" field in the EPCIS event.

Inclusion of "emcsARC" implies a "**Yes**" value for "emcs";

omission of "emcsARC" implies a "**No**" value for "emcs".

2 References, Terms and Definitions

2.1 References

Document	Author / Year
EU 2018/574 European Commission *Implementing Regulation on technical standards for the establishment and operation of a traceability system for tobacco products.* *https://ec.europa.eu/health/tobacco/tracking_tracing_system_en*	European Commission, 2018
GS1 EPC Tag Data Standard (TDS) v 1.12 *https://www.gs1.org/sites/default/files/docs/epc/GS1_EPC_TDS_i1_12.pdf*	GS1, 2019
EPCIS v 1.2 *https://www.gs1.org/sites/default/files/docs/epc/EPCIS-Standard-1.2-r-2016-09-29.pdf*	GS1, 2016
CBV v 1.2.2 *https://www.gs1.org/sites/default/files/docs/epc/CBV-Standard-1-2-2-r-2017-10-12.pdf*	GS1, 2017
GS1 General Specifications v 19.1 *https://www.gs1.org/sites/default/files/docs/barcodes/GS1_General_Specifications.pdf*	GS1, 2019
EPCIS & CBV Implementation Guideline v 1.2 *https://www.gs1.org/docs/epc/EPCIS_Guideline.pdf*	GS1, 2017

2.2 Terms and definitions

2.3 EPCIS overview

EPCIS is an open GS1 and ISO standard that has emerged as a stable enabler for visibility of supply chain events, with suitable extension mechanisms to integrate needs of fighting illicit trade. EPCIS' architecture supports centralised and mixed communication modes.

Use of this application standard assumes that the decision has already been taken by an organisation/consortium or partners to leverage the EPCIS standard. A more general overview, including argumentation supporting the implementation of EPCIS, can be found in the EPCIS & CBV Implementation Guideline (referenced in section 2, above).

2.4 EPCIS event dimensions

2.4.1 WHAT

The "WHAT" dimension of an EPCIS event specifies the object(s) observed at the focus of a given business process step.

A FIT EPCIS document SHALL use the following identifiers:

- UPUI EPC URI, equivalent to AI(01)+AI(235)
- SSCC EPC URI
- SGTIN EPC URI

Details on the EPC URI syntax and encoding/decoding rules for the aforementioned identifiers are specified in sections 6 and 7 ("*EPC URI*" and "*Correspondence between EPCs and GS1 Keys*") of GS1's *EPC Tag Data Standard* (TDS).

2.4.2 WHEN

The "WHEN" dimension of an EPCIS event is expressed as the eventTime, specifying the precise date, time, and time zone locally in effect at the point in time of an observation and/or at which a given process step is completed.

The format is of type xsd:dateTime, for example:

```
<eventTime>2018-09-27T15:58:00.000+02:00</eventTime>
```

2.4.3 WHERE

The "WHERE" dimension of an EPCIS event specifies the **read point**, which identifies the location at which an observation and/or process step took place, as well as the **business location**, which identifies the whereabouts of the observed object(s) subsequent to the event in question.

FIT EPCIS documents SHOULD omit the business location.

A FIT EPCIS document SHOULD use GLNs expressed as SGLN EPC URIs (`urn:epc:id:sgln:…`) for read point identifiers, augmented coupling AI (7040) with AI (414) to express **FID** as an extension within the FIT namespace.

For TRANSLOADING, a FIT EPCIS document MAY use a geographic location URI as specified in [RFC5870], and explicitly supported in the GS1 CBV, to populate the `readPoint` field.

2.4.4 WHY

The "WHY" dimension puts the EPCIS event into a specific business context, specifying the process step associated with the observation of the object(s), the disposition of the object(s) subsequent to the event, related business transactions and the source and destination of the object(s).

2.4.4.1 Business Step

The business step identifies what was taking place from a business perspective at the time of the event; that is, what step of a business process was occurring. Examples include "commissioning", "packing" and "shipping". The GS1 Core Business Vocabulary (CBV) standard specifies a list of cross-sector, standardised business step values, some of which are leveraged by this FIT application standard.

2.4.4.2 Disposition

The disposition identifies the business condition subsequent to the event of the physical or digital objects named in the WHAT dimension. Example dispositions include "active", "in_progress", and "in_transit". The GS1 CBV includes a list of standard Disposition values, some of which are leveraged by this FIT application standard.

2.4.5 FIT-specific EPCIS event extensions

2.4.5.1 FIT namespace and general FIT extension rules

FIT-specific EPCIS event extensions are specified using the user/vendor extension mechanism of the EPCIS standard.

An extension data element can contain any well-formed XML content, including sub-elements and attributes.

Each FIT-specific extension is assigned the following namespace identifier:

`https://gs1.org/cbv/fit`

The use of this FIT-specific XML namespace not only distinguishes FIT-specific extensions from standard EPCIS data elements, but also ensures that FIT-specific extensions will not be confused with extensions of other sectors and organisations that may use the same element names.

The namespace SHALL be declared, along with the EPCIS standard namespace(s), in the beginning of the EPCIS header, as follows:

```
<epcis:EPCISDocument
    xmlns:epcis="urn:epcglobal:epcis:xsd:1"
    xmlns:fit="https://gs1.org/cbv/fit">
  <EPCISBody>
    <EventList>
    . . .
    </EventList>
</EPCISBody>
</epcis:EPCISDocument>
```

2.4.5.2 Overview of FIT extensions

Local name	Type	Field name & description per Annex II, EU 2018/574	Annex II messages
`messageType`	string *(ISO 8859-15 character set)*	`Message_Type` Identification of message type	3.1 3.2 3.3 3.4 3.5 3.6 3.7
`eoid`	string *concatenation of GS1 element strings* **AI(7040)** *and* **AI(417)**	`EO_ID` Economic operator identifier code of the submitting entity	3.1 3.2 3.3 3.4 3.5 3.6 3.7
`fid`	string *concatenation of GS1 element strings* **AI(7040)** *and* **AI(414)**	`F_ID` Facility identifier code	3.1 3.2 3.3 3.4 3.5 3.6 3.7

Local name	Type	Field name & description per Annex II, EU 2018/574	Annex II messages
aggregationType	Integer	Aggregation_Type Identification of aggregation type; 1 – aggregation of only unit packet level UIs 2 – aggregation of only aggregated level UIs 3 – aggregation of both unit packet and aggregated level UIs	3.2
uiType	integer	UI_Type Identification of UI types in the dispatch (recorded at the highest level of available aggregation); 1 – only unit packet level UIs 2 – only aggregated level UIs 3 – both unit packet and aggregated level UIs	3.3 3.4 3.5 3.7
destinationID1	integer	Destination_ID1 Indication of destination type: if the destination facility is located on the EU territory and if it is delivery to a vending machine (VM) or by means of a vending van (VV) delivering to multiple retail outlets in quantities that have not been predetermined in advance of the delivery **1** – Non EU dest. **2** – EU destination other than VM – fixed quantity delivery **3** – EU VM(s) **4** – EU destination other than VM – delivery with VV	3.3 3.5

destinationIDList
 	
AND
 	
destinationID
	string	Destination_ID2
		Destination_ID3
		Destination_ID4
		
		Destination facility identifier code, linking, as repeatable list elements, the SGLN of a given destination facility with the concatenated GS1 element strings AI(7040) and AI (414) representing that destination's Facility Identifier code, where AI (414) corresponds to the first two segments of the read point's SGLN EPC URI, for example:
		
		`<fit:destinationIDList>`
		`<fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00777.0" gs1ElementString="(7040)5v9_(414)0614141007776"/>`
		`<fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00778.0" gs1ElementString="(7040)5v9_(414)0614141007783"/>`
		`</fit:destinationIDList>`
			3.3
			3.5

destinationID5name	string (*ISO 8859-15 character set*)	Destination_ID5 Destination facility's full address: street, house number, postal code, city	3.3 3.5
destinationID5streetAddressOne	string (*ISO 8859-15 character set*)		
destinationID5streetAddressTwo	string (*ISO 8859-15 character set*)		

Local name	Type	Field name & description per Annex II, EU 2018/574	Annex II messages
destinationID5city	string (*ISO 8859-15 character set*)		
destinationID5postalCode	string (*ISO 8859-15 character set*)		
destinationID5countryCode	code		
transportMode	integer	Transport_mode Mode of transport to which the product is trans-loaded, see: Commission Regulation (EC) No 684/2009, Annex 2, Code List 7; 1 – Sea Transport 2 – Rail transport 3 – Road transport 4 – Air transport 5 – Postal consignment 7 – Fixed transport installations 8 – Inland waterway transport	3.3 3.5
transportVehicle	string (*ISO 8859-15 character set*)	Transport_vehicle Identification of the vehicle (i.e. number plates, train number, plane/flight number, ship name or other identification)	3.3 3.5
transportCont2	string	Transport_cont2 Individual transport unit code of the container Note that Annex II field “transportCont1” (indication if the transport is containerised and uses an individual transport unit code) is rendered superfluous by the inclusion or omission of the “transportCont2” field in the EPCIS event. **Inclusion** of “transportCont2” implies a “**Yes**” value for “transportCont1	3.3 3.5
transportS1	boolean false=no true=yes	Transport_s1 Indication if the dispatch takes place with the logistic/postal operator who operates its own track and trace system accepted by the Member State of the dispatch facility. Only for small quantities of tobacco products (net weight of the products dispatched below 10kg) destined for exports to third countries; 0 – No 1 – Yes	3.3
transportS2	string (*ISO 8859-15 character set*)	Transport_s2 The logistic operator's tracking number	3.3
emcsARC	string	EMCS_ARC Administrative Reference Code (ARC)	3.3 3.5

Local name	Type	Field name & description per Annex II, EU 2018/574	Annex II messages
saadNumber	string (*ISO 8859-15 character set)*	SAAD_number Reference number of the declaration and/or authorization which has to be given by the competent authority in the Member State of destination before the movement starts  Note that Annex II field “saad” (Dispatch with a simplified accompanying document, per Commission Regulation EEC No 3649/92) is rendered superfluous by the inclusion or omission of the “saadNumber” field in the EPCIS event. **Inclusion** of “saadNumber” implies a “**Yes**” value for “saad”; **omission** of “saadNumber” implies a “**No**” value for “saad”.	3.3
expDelcarationNumber	string	Exp_DeclarationNumber Movement Reference Number (MRN)  Note that Annex II field “expDeclaration” (Indication if the Movement Reference Number (MRN) has been issued by the customs office) is rendered superfluous by the inclusion or omission of the “expDeclarationNumber” field in the EPCIS event. **Inclusion** of “expDeclarationNumber” implies a “**Yes**” value for “expDeclaration”; **omission** of “expDeclarationNumber” implies a “**No**” value for “expDeclaration”.	3.3
productReturn	boolean false=no true=yes	Product_Return Indication if the arriving products are a return following complete or partial non-delivery; 0 – No 1 – Yes	3.4
comment	string *max 1000 chars* (*ISO 8859-15 character set)*	_comment Comments by the reporting entity	3.1 3.2 3.3 3.4 3.5 3.6 3.7
upui2	string	List of corresponding unit packet level UIs to be recorded (as visible in human readable format) indicated in the same order as message 3.1’s epcList (i.e., upUI_1 in Annex II).	3.1

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2.5 eventID

For all applications of FIT-with-EPCIS, the eventID field, which is specified as optional by the EPCIS 1.2 standard, SHALL be included, populated with a UUID URI, as specified by the CBV (see "*Universally Unique Identifier (UUID) URIs for Event identifiers*").

2.6 Disaggregation

In EPCIS, if an aggregation event has action="DELETE" and an empty list for the childEPCs field, then it is interpreted as a complete disaggregation of all immediate child objects that were aggregated to the parent up to that point. "FIT with EPCIS" disaggregations SHALL NOT indicate disaggregated children, nor partial disaggregations; each disaggregation SHALL be considered a complete disaggregation of all immediate children from the parent.

3 Visibility events for Fighting Illicit Trade

For each business process step, the corresponding visibility event is listed below.

3.1 Application of unit level UIs on unit packets

Message 3.1, "*Application of unit level UIs on unit packets*", is captured in an EPCIS **Object Event** with business step **Commissioning**, as follows.

EPCIS event	Event type	**`ObjectEvent`**
	Action	ADD
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	epcList	One or more packs, each identified by **UPUI** EPC URI.

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5f(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`commissioning`
	disposition	`active`
FIT extensions	messageType	`3-1` (*ISO 8859-15 character set)*

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5f(417)1234567890128"/>`

	fid	*(see readPoint)*
	upui2	List of corresponding unit packet level UIs to be recorded (as visible in human readable format) indicated in the same order as message 3.1's epcList (i.e., upUI_1 in Annex II).

		example: <!-- Human-readable on-pack encodings below, correspoinding to upUI_2(H) of Annex II --> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vY)%3C%26Jp3*j7" hriOnPack="(235)5vY)<&Jp3*j7(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vPxbrJk3th5" hriOnPack="(235)5vPxbrJk3th5(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vs*)%3Ek85Jp3*j7" hriOnPack="(235)5vs*)>k85Jp3*j7(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5v8rntU1;00U%3F" hriOnPack="(235)5v8rntU1;00U?(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vB102bte175th" hriOnPack="(235)5vB102bte175th(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5v4CDrco52241BRd" hriOnPack="(235)5v4CDrco52241BRd(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vittJekPgalpH" hriOnPack="(235)5vittJekPgalpH(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vaC1000FyakK" hriOnPack="(235)5vaC1000FyakK(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vgpuT4aHtd" hriOnPack="(235)5vgpuT4aHtd(01)01234567543215(8008)18120308"/> <fit:upui2 epc="urn:epc:id:upui:1234567.054321.5vrLbDflilwiF" hriOnPack="(235)5vrLbDflilwiF(01)01234567543215(8008)18120308"/>
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

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3.2 Application of aggregated level UIs on aggregated packaging

Message 3.2, "*Application of aggregated level UIs on aggregated packaging*", is captured in one or more EPCIS **Aggregation Events** – iterative as necessary, to allow for "nesting" of hierarchical levels – with business step **Packing**, as follows.

Because an EPCIS Aggregation Event can only depict the relationship between two hierarchical levels, multiple, nested levels of aggregation (e.g., child-to-parent, parent-to-grandparent, etc.) are depicted in EPCIS using as many Aggregation Events as necessary to depict aggregation each of these nested levels.

3.2.1 Application of aggregated level UIs on units to carton

EPCIS event	Event type	**`AggregationEvent`**
	Action	ADD
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	parentID	One carton, identified by **SGTIN** EPC URI
	childEPCs	Multiple packs (e.g., usually 10), each identified by **UPUI** EPC URI.

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5f(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`packing`
	disposition	`in_progress`
FIT extensions	messageType	3-2 (*ISO 8859-15 character set*)
	aggregationType	2 (i.e., aggregation of "*both unit packet and aggregated level UIs*"")

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5f(417)1234567890128"/>`

	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

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3.2.2 Application of aggregated level UIs on cartons to case

EPCIS event	Event type	**`AggregationEvent`**
	Action	ADD
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	parentID	One case, identified by **SGTIN** EPC URI or **SSCC** EPC URI
	childEPCs	Multiple cartons, each identified by **SGTIN** EPC URI

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5f(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`packing`
	disposition	`in_progress`
FIT extensions	messageType	3-2 (*ISO 8859-15 character set*)
	aggregationType	2 (i.e., "*aggregation of only aggregated level UIs*")

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5f(417)1234567890128"/>`

	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set*)

3.2.3 Application of aggregated level UIs on case to logistics unit

EPCIS event	Event type	**`AggregationEvent`**
	Action	ADD
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	parentID	One logistics unit, identified by **SSCC** EPC URI
	childEPCs	Multiple cases, each identified by **SGTIN** EPC URI or **SSCC** EPC URI

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5f(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`packing`
	disposition	`in_progress`
FIT extensions	messageType	3-2 (*ISO 8859-15 character set)*
	aggregationType	2 (i.e., aggregation of "*only aggregated level UIs*")

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5f(417)1234567890128"/>`

	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

3.3 Dispatch of tobacco products from a facility

Message 3.3, "*Dispatch of tobacco products from a facility*", is captured in an EPCIS **Object Event** with business step **Shipping**, as follows.

Because the Secondary Repository envisioned by 2018/574 will contain all visibility events, it would be unnecessarily redundant (with the effect of ballooning data volumes) to reiterate all nested aggregation levels subordinate to the logistics (most senior parent) level at the point of dispatch/receiving. For this reason, an Object Event is used instead of an Aggregation Event.

EPCIS event	Event type	**`ObjectEvent`**
	Action	OBSERVE
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	epcList	One or more logistic units, each identified by **SSCC** EPC URI ***note:*** *the SSCC is tentatively **reiterated in transportCont2** (Individual transport unit code of the container) and/or transportS2 (logistic operator's tracking number)*

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5fv(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`shipping`
	disposition	`in_transit`
FIT extensions	messageType	3-3 (*ISO 8859-15 character set*)
	uiType	2 (i.e., "*only aggregated level UIs*")

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5f(417)1234567890128"/>`

	fid	*(see readPoint)*
	destinationID1	*"Indication of destination type: if the destination facility is located on the EU territory and if it is delivery to a vending machine (VM) or by means of a vending van (VV) delivering to multiple retail outlets in quantities that have not been predetermined in advance of the delivery."* **1** – Non EU dest. **2** – EU destination other than VM – fixed quantity delivery **3** – EU VM(s) **4** – EU destination other than VM – delivery with VV

	destinationIDList
	AND
	destinationID
	
	type="2"
	(non-vending-machine)
	
	type="3"
	(vending machine)
	
	type="4"
	(vending van ?)
		FIT extension linking, as repeatable list elements, the SGLN of a given destination facility with the concatenated GS1 element strings AI(7040) and AI (414) representing that destination's Facility Identifier code, where AI (414) corresponds to the first two segments of the read point's SGLN EPC URI, for example:
		
		`<fit:destinationIDList>`
		`<fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00777.0" gs1ElementString="(7040)5v9_(414)0614141007776"/>`
		`<fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00778.0" gs1ElementString="(7040)5v9_(414)0614141007783"/>`
		`</fit:destinationIDList>`
		
		The repeatable list allows for indication of multiple destinations, without the need to correlate the despatched serialised units 1-to-1 with each respective destination, in cases where each unit's point of delivery can only be established at time of delivery rather than in advance (i.e., at time of dispatch).

	destinationID5name	name of destination facility (*ISO 8859-15 character set)*
	destinationID5streetAddressOne	address of destination facility (*ISO 8859-15 character set)*
	destinationID5streetAddressTwo	address of destination facility (*ISO 8859-15 character set)*
	destinationID5city	city of destination facility (*ISO 8859-15 character set)*
	destinationID5postalCode	postal code of destination facility (*ISO 8859-15 character set)*
	destinationID5countryCode	country code of destination facility
	transportMode	*Mode of transport by which the product leaves the facility, see: Commission Regulation (EC) No 684/2009, Annex 2, Code List 7* 0 – Other 1 – Sea Transport 2 – Rail transport 3 – Road transport 4 – Air transport 5 – Postal consignment 7 – Fixed transport installations 8 – Inland waterway transport

	transportVehicle	*Free text identification of the vehicle (i.e. number plates, train number, plane/flight number, ship name or other identification).* (*ISO 8859-15 character set)*
	transportCont2	Individual transport unit code of the container.  Note that Annex II field "transportCont1" (indication if the transport is containerised and uses an individual transport unit code) is rendered superfluous by the inclusion or omission of the "transportCont2" field in the EPCIS event. **Inclusion** of "transportCont2" implies a "**Yes**" value for "transportCont1"; **omission** of "transportCont2" implies a "**No**" value for "transportCont1".
	transportS1	Indication if the dispatch takes place with the logistic/postal operator who operates its own track and trace system accepted by the Member State of the dispatch facility. Only for small quantities of tobacco products (net weight of the products dispatched below 10kg) destined for exports to third countries. false = No true = Yes
	transportS2	The logistic operator's tracking number. (*ISO 8859-15 character set)*
	emcsARC	Administrative Reference Code (ARC)  Note that Annex II field "emcs" (Dispatch under the Excise Movement and Control System, EMCS) is rendered superfluous by the inclusion or omission of the "emcsARC" field in the EPCIS event. **Inclusion** of "emcsARC" implies a "**Yes**" value for "emcs"; **omission** of "emcsARC" implies a "**No**" value for "emcs".
	saadNumber	Reference number of the declaration and/or authorization which has to be given by the competent authority in the Member State of destination before the movement starts. (*ISO 8859-15 character set)*  Note that Annex II field "saad" (Dispatch with a simplified accompanying document, per Commission Regulation EEC No 3649/92) is rendered superfluous by the inclusion or omission of the "transportCont2" field in the EPCIS event. **Inclusion** of "saadNumber" implies a "**Yes**" value for "saad"; **omission** of "saadNumber" implies a "**No**" value for "saad".
	expDeclarationNumber	Movement Reference Number (MRN)  Note that Annex II field "expDeclaration" (Indication if the Movement Reference Number (MRN) has been issued by the customs office) is rendered superfluous by the inclusion or omission of the "expDeclarationNumber" field in the EPCIS event. **Inclusion** of "expDeclarationNumber" implies a "**Yes**" value for "expDeclaration"; **omission** of "expDeclarationNumber" implies a "**No**" value for "expDeclaration".
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

3.4 Arrival of tobacco products at a facility

Message 3.4, "*Arrival of tobacco products from a facility*", is captured in an EPCIS **Object Event** with business step **Receiving**, as follows.

EPCIS event	Event type	**`ObjectEvent`**
	Action	OBSERVE
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	epcList	One logistics unit, identified by **SSCC** EPC URI

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`receiving`
	disposition	`in_progress`
FIT extensions	messageType	3-4 (*ISO 8859-15 character set)*
	uiType	2 (i.e., "*only aggregated level UIs*")

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5v9_(417)1234567890128"/>`

	fid	*(see readPoint)*
	productReturn	Indication if the arriving products are a return following complete or partial non-delivery false = No true = Yes
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

3.5 Trans-loading

Message 3.5, "*Transloading*", is captured as a lone EPCIS **Object Event (action OBSERVE)** with new business step **transloading**, as follows; in the transloading process, the vehicles involved in unloading and (re-)loading always have a 1:1 relationship (i.e., one truck transloads into exactly one other truck), rather than 1:n (i.e., one truck unloads into multiple trucks).

EPCIS event	Event type	**`ObjectEvent`**
	Action	OBSERVE
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	epcList	One or more logistic units, each identified by **SSCC** EPC URI ***note:*** *the SSCC is tentatively **reiterated in transportCont2** (Individual transport unit code of the container) and/or transportS2 (logistic operator's tracking number)*
WHERE	readPoint	**geoURI** identifying the geo-coordinates of unloading
WHY	bizStep	`transloading`
	disposition	`in_progress`
FIT extensions	messageType	3-5 (*ISO 8859-15 character set)*
	uiType	2 (i.e., "*only aggregated level UIs*") "UI_Type" for ETL messages is usually 2 ("only aggregated level UIs"), but – per discussion with Dentsu on 10 July – **may feature upUIs, in the unusual case where indivdual packs are dispatched**. Note that the example JSON message from Dentsu was expecting a list of upUIs, whereas GS1 EPCIS + FIT is expecting to report only the receiving of an aUI (e.g. for a carton or case). If a list of upUIs is expected, then it's necessary for the translator to store state information and determine from previous aggregation events which upUIs are contained within those aUIs; Dentsu has been keen to avoid the complexity of the translator having to maintain state information from prior events and were hoping to have a 1:1 mapping between EPCIS events and their expected messages.
	eoid	concatenation of GS1 element strings AI(7040) and AI (417), UIM and GLN representing Economic Operator identifier code of submitting entity,

		<fit:eoid epc="urn:epc:id:pgln:1234567.89012" gs1ElementString="(7040)5v9_(417)1234567890128"/>
	destinationID1	*"Indication of destination type: if the destination facility is located on the EU territory and if it is delivery to a vending machine (VM) or by means of a vending van (VV) delivering to multiple retail outlets in quantities that have not been predetermined in advance of the delivery."* **1** – Non EU dest. **2** – EU destination other than VM – fixed quantity delivery **3** – EU VM(s) **4** – EU destination other than VM – delivery with VV
	destinationID **type="2"** *(non-vending-machine)* **type="3"** *(vending machine)* **type="4"** *(vending van ?)*	FIT extension linking, as repeatable list elements, the SGLN of a given destination facility with the concatenated GS1 element strings AI(7040) and AI (414) representing that destination's Facility Identifier code, where AI (414) corresponds to the first two segments of the read point's SGLN EPC URI, for example: <fit:destinationIDList> <fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00777.0" gs1ElementString="(7040)5v9_(414)0614141007776"/> <fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00778.0" gs1ElementString="(7040)5v9_(414)0614141007783"/> </fit:destinationIDList> The repeatable list allows for indication of multiple destinations, without the need to correlate the despatched serialised units 1-to-1 with each respective destination, in cases where each unit's point of delivery can only be established at time of delivery rather than in advance (i.e., at time of dispatch).
	destinationID5name	name of destination facility (*ISO 8859-15 character set)*
	destinationID5streetAddressOne	address of destination facility (*ISO 8859-15 character set)*
	destinationID5streetAddressTwo	address of destination facility (*ISO 8859-15 character set)*
	destinationID5city	city of destination facility (*ISO 8859-15 character set)*
	destinationID5postalCode	postal code of destination facility (*ISO 8859-15 character set)*
	destinationID5countryCode	country code of destination facility
	transportMode	*"Mode of transport by which the product leaves the facility, see: Commission Regulation (EC) No 684/2009, Annex 2, Code List 7"* 0 – Other 1 – Sea Transport 2 – Rail transport 3 – Road transport 4 – Air transport 5 – Postal consignment 7 – Fixed transport installations

		8 – Inland waterway transport
	transportVehicle	*Free text identification of the vehicle (i.e. number plates, train number, plane/flight number, ship name or other identification).* (*ISO 8859-15 character set)*
	transportCont2	Individual transport unit code of the container.  Note that Annex II field “transportCont1” (indication if the transport is containerised and uses an individual transport unit code) is rendered superfluous by the inclusion or omission of the “transportCont2” field in the EPCIS event. **Inclusion** of “transportCont2” implies a “**Yes**” value for “transportCont1”; **omission** of “transportCont2” implies a “**No**” value for “transportCont1”.
	emcsARC	Administrative Reference Code (ARC)  Note that Annex II field “emcs” (Dispatch under the Excise Movement and Control System, EMCS) is rendered superfluous by the inclusion or omission of the “emcsARC” field in the EPCIS event. **Inclusion** of “emcsARC” implies a “**Yes**” value for “emcs”; **omission** of “emcsARC” implies a “**No**” value for “emcs”.
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

3.6 Disaggregation of aggregated level UIs

Message 3.6, "*Disaggregation of aggregated level UIs*", is captured in an EPCIS **Aggregation Event (action DELETE)** with business step **Unpacking**, as follows.

In EPCIS, if an aggregation event has action="DELETE" and an empty list for the childEPCs field, then it is interpreted as a complete disaggregation of all immediate child objects that were aggregated to the parent up to that point. "FIT with EPCIS" disaggregations SHALL NOT indicate disaggregated children, nor partial disaggregations; each disaggregation SHALL be considered a complete disaggregation of all immediate children from the parent.

Because an EPCIS Aggregation Event can only depict the relationship between two hierarchical levels, multiple, nested levels of aggregation (e.g., child-to-parent, parent-to-grandparent, etc.) are depicted in EPCIS using as many Aggregation Events as necessary to depict disaggregation each of these nested levels.

3.6.1 Disaggregation of aggregated level UIs from logistics unit to case

EPCIS event	Event type	**`AggregationEvent`**
	Action	DELETE
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	parentID	One logistics unit, identified by **SSCC** EPC URI
	childEPCs	*List of child EPCs SHALL be omitted, implying a full disaggregation.*

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`unpacking`
	disposition	`in_progress`
FIT exte.	messageType	3-6 (*ISO 8859-15 character set*)

	eoid	concatenation of GS1 element strings AI(7040) and AI (417), UIM and GLN representing Economic Operator identifier code of submitting entity, `<fit:eoid epc="urn:epc:id:pgln:1234567.89012" gs1ElementString="(7040)5v9_(417)1234567890128"/>`
	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

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3.6.2 Disaggregation of aggregated level UIs from case to carton

EPCIS event	Event type	**`AggregationEvent`**
	Action	`DELETE`
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	parentID	One carton, identified by **SGTIN** EPC URI or **SSCC** EPC URI
	childEPCs	*List of child EPCs SHALL be omitted, implying a full disaggregation.*

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`unpacking`
	disposition	`in_progress`
FIT extensions	messageType	`3-6` (*ISO 8859-15 character set)*

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5v9_(417)1234567890128"/>`

	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

3.6.3 Disaggregation of aggregated level UIs from carton to units

EPCIS event	Event type	**`AggregationEvent`**
	Action	`DELETE`
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	parentID	One carton, identified by **SGTIN** EPC URI
	childEPCs	*List of child EPCs SHALL be omitted, implying a full disaggregation.*

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`unpacking`
	disposition	`in_progress`
FIT extensions	messageType	`3-6` (*ISO 8859-15 character set)*

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5v9_(417)1234567890128"/>`

	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

3.7 Report of delivery carried out with a vending van to a retail outlet

Message 3.7, "*Report of delivery carried out with a vending van to a retail outlet*", is captured in an EPCIS **Object Event (action OBSERVE)** with business step **Arriving**, as follows.

EPCIS event	Event type	**`ObjectEvent`**
	Action	OBSERVE
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
WHEN	eventTime	Date/time of event
	eventTimeZoneOffset	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	epcList	One or more logistic units, each identified by **SSCC** EPC URI

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`  <id>urn:epc:id:sgln:1234567.89012.0</id>`
		`  <fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
		`</readPoint>`

WHY	bizStep	`arriving`
	disposition	`in_progress`
FIT extensions	messageType	3-7 (*ISO 8859-15 character set)*
	uiType	2 (i.e., "*only aggregated level UIs*")

	eoid	concatenation of GS1 element strings AI(7040) and AI (417),
		UIM and GLN representing Economic Operator identifier code of submitting entity,
		`<fit:eoid epc="urn:epc:id:pgln:1234567.89012"`
		`gs1ElementString="(7040)5v9_(417)1234567890128"/>`

	fid	*(see readPoint)*
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

4 Converting GS1 element string to/from UPUI EPC URI

The UPUI EPC corresponds to a combination of a GTIN – AI (01) – in conjunction with a *Third Party Controlled, Serialised Extension of GTIN* (TPX) – AI (235).

Please see section 7.12 of *TDS 1.12* for details.

5 Recalls of requests, operational and transactional messages

Recalls of events used for Messages 3.1-3.7 will be satisfied by leveraging the **EPCIS Error Declaration** mechanism.

Sometimes, EPCIS Events are captured in error. Because EPCIS is a journaling mechanism, the erroneous EPCIS events SHALL NOT be deleted from the repository or database where they are stored. Instead, the method of remediation is to issue an **EPCIS error declaration event**. This looks just like the original, erroneous event, but with the addition of an error declaration section.

Both events together could look like the example below, which illustrates an ObjectEvent captured in error for a shipment which never occurred; the erroneous Object Event is followed by an EPCIS error declaration event.

EPCIS event	Event type	**`ObjectEvent`**	**`ObjectEvent`**
	Action	OBSERVE	OBSERVE
	eventID	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.	UUID URI, as specified by section 8.8 of *CBV 1.2.2*.
error Declaration	declarationTime		Date/time of Error Declaration
	reason		**`did_not_occur`**
WHEN	eventTime	Date/time of event	Date/time of event
	eventTimeZone Offset	Time zone offset from UTC in effect at the time and place the event occurred.	Time zone offset from UTC in effect at the time and place the event occurred.
WHAT	epcList	One or more logistic units, each identified by **SSCC** EPC URI	One or more logistic units, each identified by **SSCC** EPC URI

WHERE	readPoint	GLN identifying the facility,
		<id> expressed as **SGLN** EPC URI,
		qualified by <fit:**fid**> extension to the readPoint,
		linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
		`<readPoint>`
		`<id>urn:epc:id:sgln:1234567.89012.0</id>`
		`<fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
		`</readPoint>`
			GLN identifying the facility,
			<id> expressed as **SGLN** EPC URI,
			qualified by <fit:**fid**> extension to the readPoint,
			linking the SGLN of the readPoint to the **Facility Identifier code**, represented by the concatenated GS1 element strings AI(7040) and AI (414), where AI (414) corresponds to the first two segments of the readPoint's SGLN EPC URI, for example:
			`<readPoint>`
			`<id>urn:epc:id:sgln:1234567.89012.0</id>`
			`<fit:fid>(7040)5v9_(414)1234567890128</fit:fid>`
			`</readPoint>`

WHY	bizStep	`shipping`	`shipping`
	disposition	`in_transit`	`in_transit`
FIT extensions	messageType	3-3 (*ISO 8859-15 character set)*	3-3 (*ISO 8859-15 character set)*
	uiType	2 (i.e., "*only aggregated level UIs*")	2 (i.e., "*only aggregated level UIs*")
	eoid	concatenation of GS1 element strings AI(7040) and AI (417), UIM and GLN representing Economic Operator identifier code of submitting entity, `<fit:eoid epc="urn:epc:id:pgln:1234567.89012" gs1ElementString="(7040)5f(417)1234567890128"/>`	concatenation of GS1 element strings AI(7040) and AI (417), UIM and GLN representing Economic Operator identifier code of submitting entity, `<fit:eoid epc="urn:epc:id:pgln:1234567.89012" gs1ElementString="(7040)5f(417)1234567890128"/>`
	fid	*(see readPoint)*	*(see readPoint)*
	destinationID1	*"Indication of destination type: if the destination facility is located on the EU territory and if it is delivery to a vending machine (VM) or by means of a vending van (VV) delivering to multiple retail outlets in quantities that have not been predetermined in advance of the delivery."* **1** – Non EU dest. **2** – EU destination other than VM – fixed quantity delivery **3** – EU VM(s) **4** – EU destination other than VM – delivery with VV	*"Indication of destination type: if the destination facility is located on the EU territory and if it is delivery to a vending machine (VM) or by means of a vending van (VV) delivering to multiple retail outlets in quantities that have not been predetermined in advance of the delivery."* **1** – Non EU dest. **2** – EU destination other than VM – fixed quantity delivery **3** – EU VM(s) **4** – EU destination other than VM – delivery with VV

	destinationID
	
	type="2"
	(non-vending-machine)
	
	type="3"
	(vending machine)
	
	type="4"
	(vending van ?)
		FIT extension linking, as repeatable list elements, the SGLN of a given destination facility with the concatenated GS1 element strings AI(7040) and AI (414) representing that destination's Facility Identifier code, where AI (414) corresponds to the first two segments of the read point's SGLN EPC URI, for example:
		
		`<fit:destinationIDList>`
		`  <fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00777.0" gs1ElementString="(7040)5v9_(414)0614141007776"/>`
		`  <fit:destinationID`
			FIT extension linking, as repeatable list elements, the SGLN of a given destination facility with the concatenated GS1 element strings AI(7040) and AI (414) representing that destination's Facility Identifier code, where AI (414) corresponds to the first two segments of the read point's SGLN EPC URI, for example:
			
			`<fit:destinationIDList>`
			`  <fit:destinationID type="2" epc="urn:epc:id:sgln:0614141.00777.0" gs1ElementString="(7040)5v9_(414)0614141007776"/>`
			`  <fit:destinationID`

		type="2" epc="urn:epc:id:sgln:0614141.00778.0" gs1ElementString="(7040)5v9_(414)0614141007783"/> </fit:destinationIDList>	type="2" epc="urn:epc:id:sgln:0614141.00778.0" gs1ElementString="(7040)5v9_(414)0614141007783"/> </fit:destinationIDList>
	destinationID5name	name of destination facility (*ISO 8859-15 character set)*	name of destination facility (*ISO 8859-15 character set)*
	destinationID5streetAddressOne	address of destination facility (*ISO 8859-15 character set)*	address of destination facility (*ISO 8859-15 character set)*
	destinationID5streetAddressTwo	address of destination facility (*ISO 8859-15 character set)*	address of destination facility (*ISO 8859-15 character set)*
	destinationID5city	city of destination facility (*ISO 8859-15 character set)*	city of destination facility (*ISO 8859-15 character set)*
	destinationID5postalCode	postal code of destination facility (*ISO 8859-15 character set)*	postal code of destination facility (*ISO 8859-15 character set)*
	destinationID5countryCode	country code of destination facility	country code of destination facility
	transportMode	*Mode of transport by which the product leaves the facility, see: Commission Regulation (EC) No 684/2009, Annex 2, Code List 7* 0 – Other 1 – Sea Transport 2 – Rail transport 3 – Road transport 4 – Air transport 5 – Postal consignment 7 – Fixed transport installations 8 – Inland waterway transport	*Mode of transport by which the product leaves the facility, see: Commission Regulation (EC) No 684/2009, Annex 2, Code List 7* 0 – Other 1 – Sea Transport 2 – Rail transport 3 – Road transport 4 – Air transport 5 – Postal consignment 7 – Fixed transport installations 8 – Inland waterway transport
	transportVehicle	*Free text identification of the vehicle (i.e. number plates, train number, plane/flight number, ship name or other identification).* (*ISO 8859-15 character set)*	*Free text identification of the vehicle (i.e. number plates, train number, plane/flight number, ship name or other identification).* (*ISO 8859-15 character set)*
	transportCont2	Individual transport unit code of the container	Individual transport unit code of the container
	transportS1	Indication if the dispatch takes place with the logistic/postal operator who operates its own track and trace system accepted by the Member false = No true = Yes State of the dispatch facility. Only for small quantities of tobacco products (net weight of the products dispatched below 10kg) destined for exports to third countries.	Indication if the dispatch takes place with the logistic/postal operator who operates its own track and trace system accepted by the Member false = No true = Yes State of the dispatch facility. Only for small quantities of tobacco products (net weight of the products dispatched below 10kg) destined for exports to third countries.
	transportS2	The logistic operator's tracking number (*ISO 8859-15 character set)*	The logistic operator's tracking number (*ISO 8859-15 character set)*

	emcsARC	Administrative Reference Code (ARC)	Administrative Reference Code (ARC)
	saadNumber	Reference number of the declaration and/or authorization which has to be given by the competent authority in the Member State of destination before the movement starts. (*ISO 8859-15 character set)* Note that Annex II field “saad” (Dispatch with a simplified accompanying document, per Commission Regulation EEC No 3649/92) is rendered superfluous by the inclusion or omission of the “saadNumber” field in the EPCIS event. **Inclusion** of “saadNumber” implies a “**Yes**” value for “saad”; **omission** of “saadNumber” implies a “**No**” value for “saad”.	Reference number of the declaration and/or authorization which has to be given by the competent authority in the Member State of destination before the movement starts. (*ISO 8859-15 character set)* Note that Annex II field “saad” (Dispatch with a simplified accompanying document, per Commission Regulation EEC No 3649/92) is rendered superfluous by the inclusion or omission of the “saadNumber” field in the EPCIS event. **Inclusion** of “saadNumber” implies a “**Yes**” value for “saad”; **omission** of “saadNumber” implies a “**No**” value for “saad”.
	expDeclaration Number	Movement Reference Number (MRN) Note that Annex II field “expDeclaration” (Indication if the Movement Reference Number (MRN) has been issued by the customs office) is rendered superfluous by the inclusion or omission of the “expDeclarationNumber” field in the EPCIS event. **Inclusion** of “expDeclarationNumber” implies a “**Yes**” value for “expDeclaration”; **omission** of “expDeclarationNumber” implies a “**No**” value for “expDeclaration”.	Movement Reference Number (MRN) Note that Annex II field “expDeclaration” (Indication if the Movement Reference Number (MRN) has been issued by the customs office) is rendered superfluous by the inclusion or omission of the “expDeclarationNumber” field in the EPCIS event. **Inclusion** of “expDeclarationNumber” implies a “**Yes**” value for “expDeclaration”; **omission** of “expDeclarationNumber” implies a “**No**” value for “expDeclaration”.
	comment	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*	Optional free text comments by reporting entity, limited to 1000 characters. (*ISO 8859-15 character set)*

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