

UK VDS LOGISTIC TRACEABILITY

API Technical
Specifications

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PUBLIC



Enabling trust

DOCUMENT HISTORY

VERSION	DATE	AUTHOR	COMMENTS
v.1.1	24.06.2025	C. York	First draft
v.1.2	07.04.2026	C. York	Updated to add specs to cover: 1) the endpoint to exchange the username/password for a token and 2) the endpoints to download the codes.
v.1.3	16.04.2026	Z. Belfkih	Added the GS1 Formats in new section 7.9
v.1.4	11.05.2026	J. Gardiol	Clarified expected values for readPoint and bizLocation in events. Improved examples.
v.1.5	28.05.2026	O. Ludwig	Adaptation for UK Vaping Duty Stamps solution. In the examples, replacement of lote code by HRC <i>urn:lote:id:pack:WAA1a0preri7fi2LFnap9gH06022514</i> by <i>urn:epc:id:ext:UKVSDRY/AHMEXRM02310</i>
v.1.5.1	12.06.2026	O. Ludwig	Corrections and complementary info on product codes.

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TABLE OF CONTENTS

1	PREFACE	4
1.1	PURPOSE	4
1.2	INTENDED AUDIENCE	4
2	CAPTURING EVENTS	5
2.2	Capturing API	6
2.3	Events processing service	6
2.4	Anomalies processing service	6
3	CAPTURING API ENDPOINTS	7
3.1	Capture event	7
3.2	Event status	8
4	EVENT STATUSES	10
5	ERRORS	11
5.1	Capturing API errors	11
5.2	Events processing service errors	13
6	CODE FORMATS	15
6.1	UID-AG (Generated by UK VDS)	15
6.2	UID-SSCC (Generated by Economic operator)	16
7	EVENTS	17
7.1	Commissioning	17
7.2	Aggregation	19
7.3	Disaggregation	20
7.4	Shipping	21
7.5	Receiving	22
7.6	Destroy	24
7.7	Sale	25
7.8	Return from customer	26
7.9	GS1 Formats	27

1 PREFACE

1.1 PURPOSE

This manual provides documentation for the RESTful Application Programming Interface (API) of the UK Vaping Duty Stamps solution for logistics traceability in the United Kingdom, hereafter called **UK VDS LOTE**. This API enables integration with your existing systems and applications, allowing you to automate sending events to UK VDS LOTE.

1.2 INTENDED AUDIENCE

This manual is designed for:

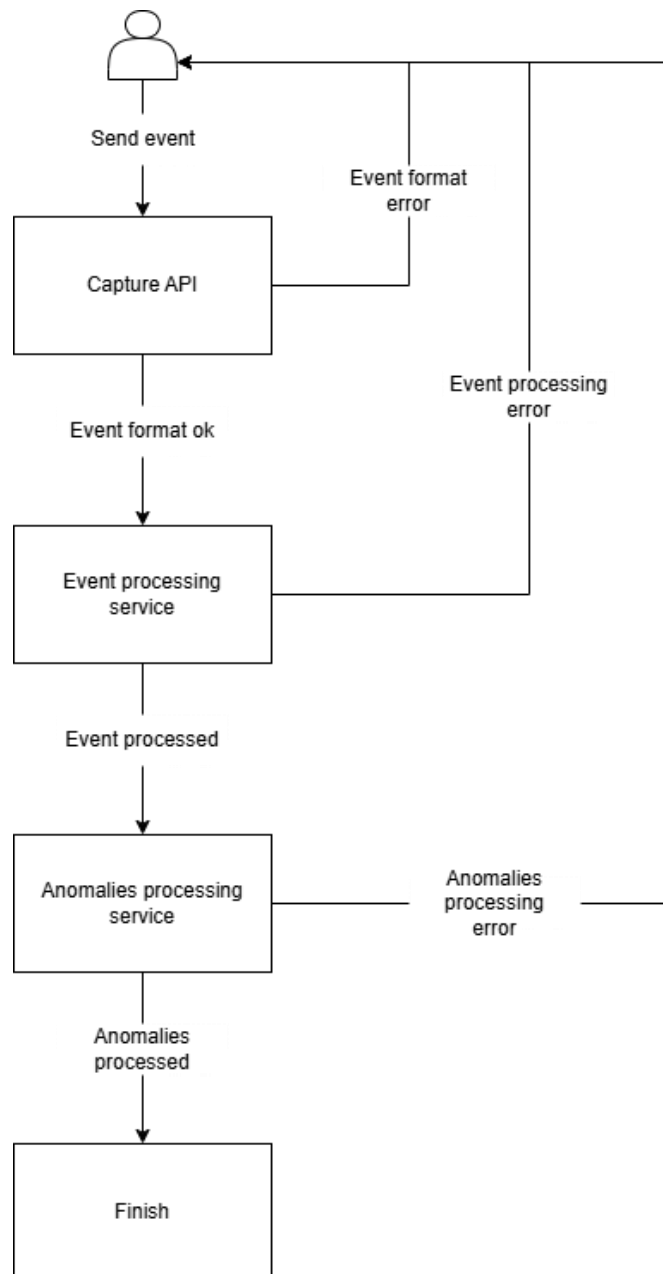
- Business Analysts: Analysts who need to understand the API's capabilities to support business processes.
- Developers: Software engineers and developers who will integrate the API into their applications.
- IT Professionals: IT administrators and system integrators responsible for deploying and managing the API.

2 CAPTURING EVENTS

Event capturing in UK VDS LOTE is done in 3 separate processes:

- Capturing API - synchronous
- Event processing service - asynchronous
- Anomalies processing service - asynchronous

Diagram below describes the process.



2.2 CAPTURING API

Events are sent to UK VDS LOTE using a single API endpoint for capturing any event.

Upon receiving the event, API will synchronously check basic formatting of the event message and either accept or reject the event with error message sent in response.

Events that result in error in this stage will be rejected from the system and will not be recorded as valid events in the events history, except for the records in audit trail and error logs.

2.3 EVENTS PROCESSING SERVICE

In case that event message is validated and accepted by API, it will then be processed asynchronously by the events processing service.

This service performs all the logical checks. In case there are any errors, event processing will be finished with an error status.

Such events will be recorded in events history but will not result in any of data recorded in UK VDS LOTE.

Events that are processed successfully will result in data recorded in UK VDS LOTE.

2.4 ANOMALIES PROCESSING SERVICE

Events that are successfully processed are sent to anomalies processing service.

This service will mark invalid events order if found and record them as anomalies in the system.

It will also resolve any anomalies that are invalidated by receiving missing events from previous checks.

3 CAPTURING API ENDPOINTS

3.1 CAPTURE EVENT

Method name	Capture event																								
Method description	This endpoint is used for capturing any type of event in XML format in UK VDS LOTE system. Errors displayed from Capturing API errors Endpoint requires User's API-key in header. The API key will be provided by SICPA. It will be a string between 20 and 40 characters long.																								
Method type	POST																								
Method address	/captureEvent																								
Headers	Content-Type: application/xml API-Key: {{API-KEY}}																								
Request body XML	EPCIS event XML. See examples and definitions .																								
Response XML (success)	<pre><?xml version="1.0" encoding="UTF-8" ?> <response> <status></status> <errorCode></errorCode> <errorMessage></errorMessage> <event_id></event_id> <timestamp></timestamp> </response></pre>																								
Response XML (error)	<pre><?xml version="1.0" encoding="UTF-8" ?> <response> <status></status> <errorCode></errorCode> <errorMessage></errorMessage> <errorDescription></errorDescription> <errorTrace></errorTrace> <timestamp></timestamp> </response></pre>																								
Response Fields description	<table border="1"> <thead> <tr> <th>Field</th> <th>Field type</th> <th>Field description</th> </tr> </thead> <tbody> <tr> <td>status</td> <td>Text</td> <td>General request status</td> </tr> <tr> <td>errorCode</td> <td>Integer</td> <td>Error code, 0 if success</td> </tr> <tr> <td>errorMessage</td> <td>Text</td> <td>Error message title, empty if success</td> </tr> <tr> <td>errorDescription</td> <td>Text</td> <td>Error description, not returned if success</td> </tr> <tr> <td>errorTrace</td> <td>Text</td> <td>Error log information, not returned if success</td> </tr> <tr> <td>event_id</td> <td>UUID</td> <td>UUID of event, returned if success</td> </tr> <tr> <td>timestamp</td> <td>Text</td> <td>Date and time stamp of response</td> </tr> </tbody> </table>	Field	Field type	Field description	status	Text	General request status	errorCode	Integer	Error code, 0 if success	errorMessage	Text	Error message title, empty if success	errorDescription	Text	Error description, not returned if success	errorTrace	Text	Error log information, not returned if success	event_id	UUID	UUID of event, returned if success	timestamp	Text	Date and time stamp of response
Field	Field type	Field description																							
status	Text	General request status																							
errorCode	Integer	Error code, 0 if success																							
errorMessage	Text	Error message title, empty if success																							
errorDescription	Text	Error description, not returned if success																							
errorTrace	Text	Error log information, not returned if success																							
event_id	UUID	UUID of event, returned if success																							
timestamp	Text	Date and time stamp of response																							
Version	1.0																								

3.2 EVENT STATUS

Method name	Event Status
Method description	This endpoint is used for fetching information about the status of event with {{event_id}} Endpoint requires User's API-key in header
Method type	GET
Method address	/captureEvent/status/{{event_id}}
Headers	Content-Type: application/xml API-Key: {{API-KEY}}
Request body	None
Response JSON	<pre> { "data": { "created_ts": "2025-05-27T22:43:02.000000+02:00", "created_users_id": 10, "created_users_username": "username", "date_processed": "2025-05-27T22:43:08.000000+02:00", "date_uploaded": "2025-05-27T22:43:02.000000+02:00", "description": "", "eo_id": "EOID", "event_body": version="1.0"?>\r\n<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" xmlns:cbvmd="urn:epcglobal:cbv:mda" xmlns:lote="urn:sicpa:lote" schemaVersion="1.2" creationDate="2025-06-03T22:42:01.552Z"\>\r\n <EPCISBody>\r\n <EventList>\r\n <ObjectEvent>\r\n <eventTime>2025-06-03T22:42:01.552Z</eventTime>\r\n <recordTime>2025-06-03T22:42:01.552Z</recordTime>\r\n <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>\r\n <baseExtension>\r\n <eventID>urn:uuid:1cfe4f8b-cd15- 4d7d-98b3-5744cf1168f4</eventID>\r\n </baseExtension>\r\n <epcList>\r\n <epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc>\r\n </epcList>\r\n <action>DELETE</action>\r\n <bizStep>urn:epcglobal:cbv:bizstep:destroying</bizStep>\r\n <disposition>urn:epcglobal:cbv:disp:destroyed</disposition>\r\n <readPoint>\r\n <id>urn:lote:id:loc:WAA1ades2</id>\r\n </readPoint>\r\n <bizLocation>\r\n <id>urn:lote:id:loc:WAA1ades2</id>\r\n </bizLocation>\r\n </ObjectEvent>\r\n </EventList>\r\n </EPCISBody>\r\n </epcis:EPCISDocument>", "event_status": 60, "event_status_name": "finished processing anomalies ok", "event_ts": "2025-05-27T08:30:16.000000+02:00", "event_type": 50, "event_type_name": "receiving", "event_uid": "4347d442-282a-4e45-a485-22a73575fb61", "id": 348 </pre>

Method name	Event Status		
	<pre> }, "errorCode": 0, "errorMessage": "", "requestID": "", "status": "success", "timestamp": "2025-05-27T22:46:46.285806+02:00" } </pre>		
Response Fields description	Field	Field type	Field description
	status	Text	General request status
	errorCode	Integer	Error code, 0 if success
	errorMessage	Text	Error message title, empty if success
	errorDescription	Text	Error description, not returned if success
	errorTrace	Text	Error log information, not returned if success
	data	JSON object	Event details
	data.created_ts	Timestamp	Timestamp when event was captured
	data.created_users_id	Integer	ID of the user who sent event
	data.created_users_username	Text	Username of the user who sent event
	data.date_processed	Timestamp	Timestamp when event was processed
	data.date_uploaded	Timestamp	Timestamp when event was uploaded
	data.description	Text	Empty if no errors. In case of errors, displays JSON formatted string with errors from Events processing service errors .
	data.eo_id	Integer	EO_ID of the user who sent event
	data.event_body	Text	Event document XML
	data.event_status	Integer	Event status ID
	data.event_status_name	Text	Event status name
	data.event_ts	Timestamp	Event time
	data.event_type	Integer	Event type ID
	data.event_type_name	Text	Event type name
	data.event_uid	UUID	Event UUID
	data.id	Integer	Event ID
Version	1.0		

4 EVENT STATUSES

Event status code	Event Status	Description
10	uploaded	Event has processed by Capturing API and accepted for processing
20	processing	Event is being processed by Events processing service
30	finished processing ok	Event has been processed by Events processing service successfully. Event is available in Track and Trace. Event is sent to Anomalies processing service
40	error in processing	Events processing service detected error. Event is not available in Track and Trace, processing finished
50	processing anomalies	Event is being processed by Anomalies processing service
60	finished processing anomalies ok	Event has been processed by Anomalies processing service successfully. Processing finished
70	error in processing anomalies	There was an error in Anomalies processing service.

5 ERRORS

5.1 CAPTURING API ERRORS

Errors returned synchronously by Capturing API endpoint.

Status code	errorCode	errorMessage	errorDescription	Description
405	100405	405 Method Not Allowed: The method is not allowed for the requested URL. URL:::{URL}		Endpoint method not allowed
404	100404	404 Not Found: The requested URL was not found on the server. If you entered the URL manually please check your spelling and try again. URL:::{URL}		Endpoint does not exist
500	100500	Unexpected system error		Unexpected system error
400	100400	Bad request	For EPCIS document mimetype must be XML	Event is not XML document
400	9999999	InternalToolsError.message	InternalToolsError.description	
400	9999999	General Error	(Exception)	
400	9999999	MySQL DatabaseError.	Event {UUID} already exists!	Event with UUID already exists in the system
400	100501	Error parsing EPCIS document.	EPCIS schema version must be '1.2'.	Event is not EPCIS 1.2 document
400	100501	Error parsing EPCIS document.	Error parsing 'eventTime'. Missing or not valid format.	eventTime is not valid
400	100501	Error parsing EPCIS document.	Error parsing 'captureTime'	captureTime is not valid
400	100501	Error parsing EPCIS document.	Time {eventTime}: [eventTimeTimestamp] is greater than time {captureTime}: [captureTimeTimestamp], Using time_delta: {300}	eventTime is greater than captureTime using time delta
400	100501	Error parsing EPCIS document.	Batch object is not supported.	
400	100501	Error parsing EPCIS document.	URN type is not supported. Only supported 'epc' type is 'id'.	URN is invalid. Must start with "id"
400	100501	Error parsing EPCIS document.	Only supported 'lote' type is 'pack', 'agg' and 'loc'.	Invalid type for lote URN
400	100501	Error parsing EPCIS document.	Only supported 'lote' type is 'id'.	Lote URN must start with "id"
400	100501	Error parsing EPCIS document.	Missing event location. Unable to find 'bizLocation' or 'readPoint'	Event location missing
400	100501	Error parsing EPCIS document.	Missing 'baseExtension:eventID' in event.	Event ID missing



Status code	errorCode	errorMessage	errorDescription	Description
400	100501	Error parsing EPCIS document.	Invalid 'eventTimeZoneOffset' in EPCIS document. Must be between '-18:00' and '+18:00'.	eventTimeZoneOffset out of range
400	100501	Error parsing EPCIS document.	Unsupported 'disposition' in Commissioning event. Only 'active' is supported.	Commissioning disposition invalid
400	100501	Error parsing EPCIS document.	Unsupported 'action' in Commissioning event. Only 'add' is supported.	Commissioning action invalid
400	100501	Error parsing EPCIS document.	Unsupported 'disposition' in 'destroy' business step. Only 'stolen, expired, damaged, destroyed' are supported.	Destroy disposition invalid
400	100501	Error parsing EPCIS document.	Unsupported 'action' in 'destroy' business step. Only 'delete' is supported.	Destroy action invalid
400	100501	Error parsing EPCIS document.	Unsupported 'disposition' in Shipping event. Only 'in_transit' is supported.	Shipping disposition invalid
400	100501	Error parsing EPCIS document.	Unsupported 'action' in Shipping event. Only 'observe' is supported.	Shipping action invalid
400	100501	Error parsing EPCIS document.	Unsupported 'disposition' in Receiving business step. Only 'in_progress' and 'returned' are supported.	Receiving disposition invalid
400	100501	Error parsing EPCIS document.	Unsupported 'action' in Receiving business step. Only 'observe' is supported.	Receiving action invalid
400	100501	Error parsing EPCIS document.	Unsupported 'disposition' in Sale event. Only 'retail_sold' is supported.	Sale disposition invalid
400	100501	Error parsing EPCIS document.	Unsupported 'action' in Sale event. Only 'observe' is supported.	Sale action invalid
400	100501	Error parsing EPCIS document.	Unsupported bizStep[{}] in object event.	bizStep invalid
400	100501	Error parsing EPCIS document.	Unsupported 'bizStep' in Aggregation/Disaggregation event. Only 'packing' and 'unpacking' are supported.	Aggregation/Disaggregation bizStep invalid
400	100501	Error parsing EPCIS document.	Unsupported 'disposition' in Aggregation/Disaggregation event. Only 'in_progress' is supported	Aggregation/Disaggregation disposition invalid
400	100501	Error parsing EPCIS document.	Unsupported 'action' in Aggregation/Disaggregation event. Only 'add' and 'delete' are supported.	Aggregation/Disaggregation action invalid
400	100501	Error parsing EPCIS document.	Invalid type of 'bizTransaction' in EPCIS document. Must be 'urn:epcglobal:cbv:btt:inv'	Invoice tag invalid
400	100501	Error parsing EPCIS document.	Missing 'intendedRoute' in EPCIS document.	Missing intendedRoute in shipping, receiving
400	100501	Error parsing EPCIS document.	Missing 'customer' in EPCIS document.	Missing customer in sale, return
400	100501	Error parsing EPCIS document.	Only one 'extension.sourceList' is allowed in EPCIS document.	Multiple sources in event
400	100501	Error parsing EPCIS document.	Only one 'extension.destinationList' is allowed in EPCIS document.	Multiple destinations in event
400	100501	Error parsing EPCIS document.	Invalid type of 'extension.sourceList' in EPCIS document. Must be "urn:epcglobal:cbv:sdt:location"	Invalid sourceList
400	100501	Error parsing EPCIS document.	Invalid type of 'extension.destinationList' in EPCIS document. Must be "urn:epcglobal:cbv:sdt:location"	Invalid destinationList
400	100501	Error parsing EPCIS document.	Missing or empty list 'epcList' in EPCIS document.	Missing EPC list in Commissioning, Destroy, Shipping, Receiving, Sale, Return
400	100501	Error parsing EPCIS document.	Missing or empty list 'childEPCs' in EPCIS document.	Missing children list in Aggregation, Disaggregation
400	100501	Error parsing EPCIS document.	Unable to convert string[{TIMESTAMP}] to datetime	Date time invalid



Status code	errorCode	errorMessage	errorDescription	Description
400	100501	Error parsing EPCIS document.	Content error. Body is empty or missing 'event' tag.	Invalid event
400	100501	Error parsing EPCIS document.	Content error. Source and destination location are the same.	Source and destination are same
400	100501	Error parsing EPCIS document.	Error parsing Commissioning Event.	
400	100501	Error parsing EPCIS document.	Error parsing Aggregation Event.	
400	100501	Error parsing EPCIS document.	Error parsing Disaggregation Event.	
400	100501	Error parsing EPCIS document.	Error parsing Shipping Event.	
400	100501	Error parsing EPCIS document.	Error parsing Sale Event.	
400	100501	Error parsing EPCIS document.	Error parsing Receiving Event.	
400	100501	Error parsing EPCIS document.	Error parsing Return From Customer Event.	
400	100501	Error parsing EPCIS document.	Error parsing Destroy Event.	

5.2 EVENTS PROCESSING SERVICE ERRORS

Errors display in Event status endpoint.

errorCode	errorMessage	errorDescription	Description
1001	Unauthorised user!		User API key is invalid or has no rights on objects or locations
10004	Error getting location name	Error getting location name for location id '{LOCATIONID}'. Missing from master data records	Location does not exist or user does not have rights
10004	Error getting location name	General error getting location from database:: [{}]	Unhandled error getting locations
10002	Error getting country name	Error getting country name for country id '{COUNTRYID}'. Missing from master data records	
10002	Error getting country name	General error getting country from database:: [{}]	Unhandled error getting country
10005	Error getting machine info	Error getting machine info for location id '{MACHINEID}'. Missing from master data records	Machine does not exist or user does not have rights
10005	Error getting machine info	General error getting machine info from database:: [{}]	Unhandled error getting machine
10003	Error getting product name	Error getting product name for product id '{SKU}'. Missing from master data records	Product does not exist or user does not have rights
10003	Error getting product name	General error getting product from database:: [{}]	Unhandled error getting product
9999999	Error parsing URN code	Error parsing code '{CODE}'. Check documentation for valid format	Invalid EPC



errorCode	errorMessage	errorDescription	Description
9999999	Invalid URN code	Expected urn:lote:id:loc:xxxxx but got {}	Invalid location URN
9999999	Invalid URN code	Expected urn:lote:epcis:bt:inv:xxxxx but got {}	Invalid invoice URN
9999999	Invalid URN code	Expected urn:lote:name:custxxxxx but got {}	Invalid customer URN
9999999	Unable to set all PACK level objects	List of object missing in database or in wrong status: {LIST}	Invalid or missing EPCs is event
9999999	Unable to set all PACK level objects	Duplicate IDs found in the list: {LIST}	Duplicates found in EPCs list
9999999	Unable to set all PACK level objects	Different full codes found in the list: {LIST}	Serial numbers used in more than one UID-PR
9999999	Error parsing event.	eventID must be UUID version 4.	Invalid event UUID
9999999	Error parsing event.	eventID must be defined and start with 'urn:uuid:'.	Invalid event UUID
9999999	Error processing object.	'ReadPoint' must be the same as UID-MA extracted from EPC: readPoint[{READPOINT}], UID_MA[{UID-MA}]	In commissioning, UID-PRs must contain machine ID same as in read point.
9999999	Error processing object	All objects must be of same type. In your event we have: pack[{}], aggregation[{}], external_code[{}], SSCC[{}].	Commissioning is allowed only on same UID type
9999999	Invalid children object	Children object must be empty in Disaggregation event.	
9999999	Invalid children object	Not allowed children object to be the same as parent object	Child cannot be the same as parent
9999999	Invalid children object type	Not allowed children object type SSCC in Aggregation event	SSCC cannot be child
9999999	Invalid parent object type	Not allowed parent object type PACK in Aggregation event	UID-PR cannot be parent
9999999	Error executing items_update_status_insert	Error processing event '{}'. Error[{}]: {}	
9999999	Error executing items_update_status_insert	General error executing items_update_status_insert:: [{}]	
9999999	Error executing evn_offline_upload_data	Error processing event '{}'. Error code: {}	
9999999	Error executing evn_offline_upload_data	General error executing evn_offline_upload_data:: [{}]	

6 CODE FORMATS

6.1 UID-AG (GENERATED BY UK VDS)

The UID-AG is based on ISO/IEC 15459:2014 standard and has the following format.

Block	A		B
Block Name	Unique Identification Code (UIC)	UID Prefix	Serial Number
Block Details	Authorised character set is [a-z][A-Z][0-9] → 62 possible characters		
Length	5 characters	1 character	20 characters
Example	WAA1a	1	WSXEDC34tf78H0ZTHTZT
Generated by	UK VDS		UK VDS

Block / Attribute	Value
Unique Identification Code (UIC)	WAA1a (constant value)
UID Prefix	1 (constant value for UID-AG)

6.2 UID-SSCC (GENERATED BY ECONOMIC OPERATOR)

The SSCC format is defined in ISO/IEC 15417: 2007. It is made-up of the following fields (18 characters excluding the GS1 Application Identifier):

Field	Description	Length	Value	Comment
GS1 Application Identifier		2 numeric char	Fixed: 00	(" and ") excluded from the field itself and only printed in the HRC of the Code 128
Extension Digit	GS1's IAC	1 numeric char	Variable: Between 0 and 9	0 to 9 are the IAC allocated to GS1 by the RA (according to ISO 15459-1:2014), hence this extension ID is the GS1's IAC
GS1 Company Prefix	CIN allocated by GS1 to the manufacturer (i.e. identity issuer)	N numeric char	Variable	
Serial Reference	Serial reference allocated to the transport unit by the manufacturer (i.e. identity issuer)	M numeric char	Variable	
Check Digit	Check Digit calculated on the basis of the preceding 17 digits	1 alphanumeric char	Variable	The Check Digit is calculated using the algorithm defined by GS1 [GENSPECS, 7.9.1]

Block / Attribute	Value
GS1 Application Identifier	00 (constant value)
Extension Digit	Variable: between 0 and 9
GS1 Company Prefix	CIN allocated by GS1 to the economic operator

7 EVENTS

7.1 COMMISSIONING

In the examples below, the product codes such as UKVDS DRY/AHMEXRM02310 are unique identifiers per product, that are generated by the VDS Solution at the coding stage. They are composed of a prefix (8 char max) followed by "/" and a string of 12 alphanumeric characters forming the Human Readable Code. These data materialized in the form of a 12x26 Datamatrix 2D code printed on the stamp affixed on the product.

7.1.1 PRODUCT (UID-PR)

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T00:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:32d018f0-24c7-4ee4-80c3-6453b64b7b23</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:epc:id:ext:UKVDS DRY/AHMEXRM02310</epc>
          <epc>urn:epc:id:ext:UKVDS DRY/AHMEXRM02311</epc>
          <epc>urn:epc:id:ext:UKVDS DRY/AHMEXRM02312</epc>
          <epc>urn:epc:id:ext:UKVDS DRY/AHMEXRM02313</epc>
        </epcList>
        <action>ADD</action>
        <bizStep>urn:epcglobal:cbv:bizstep:commissioning</bizStep>
        <disposition>urn:epcglobal:cbv:disp:active</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1aFG5R</id>
        </readPoint>
        <bizLocation>
          <id>urn:lote:id:loc:WAA1a17</id>
        </bizLocation>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

7.1.2 AGGREGATION LEVEL (UID-AG GENERATED BY UK VDS)

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T00:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:32d018f0-24c7-4ee4-80c3-6453b64b7b23</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc>
        </epcList>
        <action>ADD</action>
        <bizStep>urn:epcglobal:cbv:bizstep:commissioning</bizStep>
        <disposition>urn:epcglobal:cbv:disp:active</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1aFG5R</id>
        </readPoint>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

```

    <bizLocation>
      <id>urn:lote:id:loc:WAA1a17</id>
    </bizLocation>
  </ObjectEvent>
</EventList>
</EPCISBody>
</epcis:EPCISDocument>

```

7.1.3 AGGREGATION LEVEL (UID-SSCC GENERATED BY ECONOMIC OPERATOR)

```

<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T00:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:32d018f0-24c7-4ee4-80c3-6453b64b7b23</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:epc:id:sscc:385123.04567891234</epc>
        </epcList>
        <action>ADD</action>
        <bizStep>urn:epcglobal:cbv:bizstep:commissioning</bizStep>
        <disposition>urn:epcglobal:cbv:disp:active</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1aFG5R</id>
        </readPoint>
        <bizLocation>
          <id>urn:lote:id:loc:WAA1a17</id>
        </bizLocation>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>

```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T00:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	32d018f0-24c7-4ee4-80c3-6453b64b7b23
<epc>	Item	urn	<epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc> <epc>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc> <epc>urn:epc:id:sscc:385123.04567891234</epc>
<readPoint>	Machiine where event is captured	urn	<id>urn:lote:id:loc:WAA1aFG5R</id>
<bizLocation>	Facility where event happened	urn	<id>urn:lote:id:loc:WAA1a17</id>

7.2 AGGREGATION

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <AggregationEvent>
        <eventTime>2024-05-24T01:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:42d018f0-24c7-4ee4-80c3-6453b64b7c24</eventID>
        </baseExtension>
        <parentID>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</parentID>
        <childEPCs>
          <epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc>
          <epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02311</epc>
          <epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02312</epc>
          <epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02313</epc>
        </childEPCs>
        <action>ADD</action>
        <bizStep>urn:epcglobal:cbv:bizstep:packing</bizStep>
        <disposition>urn:epcglobal:cbv:disp:in_progress</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1a17</id>
        </readPoint>
        <bizLocation>
          <id>urn:lote:id:loc:WAA1a17</id>
        </bizLocation>
      </AggregationEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T01:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	42d018f0-24c7-4ee4-80c3-6453b64b7b23
<parentID>	Parent in aggregation	urn	<parentID>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</parentID>
<childEPCs>	List of children in aggregation	List of urn	
<epc>	Item	urn	<epc> urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc> <epc> urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP4</epc>
<readPoint>	Facility where event is captured	urn	<id>urn:lote:id:loc:WAA1a17</id>
<bizLocation>	Facility where event happened	urn	<id>urn:lote:id:loc:WAA1a17</id>

7.3 DISAGGREGATION

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <AggregationEvent>
        <eventTime>2024-05-24T01:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:42d018f0-24c7-4ee4-80c3-6453b64b7c24</eventID>
        </baseExtension>
        <parentID>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</parentID>
        <childEPCs />
        <action>DELETE</action>
        <bizStep>urn:epcglobal:cbv:bizstep:unpacking</bizStep>
        <disposition>urn:epcglobal:cbv:disp:in_progress</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1a17</id>
        </readPoint>
        <bizLocation>
          <id>urn:lote:id:loc:WAA1a17</id>
        </bizLocation>
      </AggregationEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T01:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	42d018f0-24c7-4ee4-80c3-6453b64b7b23
<parentID>	Parent in aggregation	urn	<parentID>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</parentID>
<childEPCs>	List of children in aggregation	List of urn	
<epc>	Item	urn	<epc> urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc> <epc> urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP4</epc>
<readPoint>	Facility where event is captured	urn	<id>urn:lote:id:loc:WAA1a17</id>
<bizLocation>	Facility where event happened	urn	<id>urn:lote:id:loc:WAA1a17</id>

7.4 SHIPPING

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" xmlns:lotec="urn:sicpa:lotec:xsd:1"
schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T02:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:52d018f0-24c7-4ee4-80c3-6453b64b7c24</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:lotec:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc>
        </epcList>
        <action>OBSERVE</action>
        <bizStep>urn:epcglobal:cbv:bizstep:shipping</bizStep>
        <disposition>urn:epcglobal:cbv:disp:in_transit</disposition>
        <readPoint>
          <id>urn:lotec:id:loc:WAA1a17</id>
        </readPoint>
        <bizTransactionList>
          <bizTransaction
type="urn:epcglobal:cbv:bt:inv">urn:lotec:epcis:bt:inv:12345</bizTransaction>
        </bizTransactionList>
        <extension>
          <sourceList>
            <source type="urn:epcglobal:cbv:sdt:location">urn:lotec:id:loc:WAA1a17</source>
          </sourceList>
          <destinationList>
            <destination
type="urn:epcglobal:cbv:sdt:location">urn:lotec:id:loc:WAA1a18</destination>
          </destinationList>
        </extension>
        <lotec:intendedRoute>Lausanne - Zurich - Zagreb</lotec:intendedRoute>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T02:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	52d018f0-24c7-4ee4-80c3-6453b64b7b23
<epcList>	List of shipped epcs	List of urn	
<epc>	Item	urn	<epc>urn:lotec:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc>
<readPoint>	Location where event is captured	urn	<id>urn:lotec:id:loc:WAA1a17</id>
<source>	Source location of shipping	urn	<source type="urn:epcglobal:cbv:sdt:location">urn:lotec:id:loc:WAA1a17</source>
<destination>	Destination location of shipping	urn	<destination type="urn:epcglobal:cbv:sdt:location">urn:lotec:id:loc:WAA1a18</destination>
<bizTransaction>	Invoice ID (optional)	urn	urn:lotec:epcis:bt:inv:12345
<lotec:intendedRoute>	Intended route	String	Lausanne – Zurich - Zagreb

7.5 RECEIVING

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" xmlns:lote="urn:sicpa:lote:xsd:1"
schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T03:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:62d018f0-24c7-4ee4-80c3-6453b64b7c24</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc>
        </epcList>
        <action>OBSERVE</action>
        <bizStep>urn:epcglobal:cbv:bizstep:receiving</bizStep>
        <disposition>urn:epcglobal:cbv:disp:in_progress</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1a18</id>
        </readPoint>
        <bizTransactionList>
          <bizTransaction
type="urn:epcglobal:cbv:bt:inv">urn:lote:epcis:bt:inv:12345</bizTransaction>
        </bizTransactionList>
        <extension>
          <sourceList>
            <source type="urn:epcglobal:cbv:sdt:location">urn:lote:id:loc:WAA1a17</source>
          </sourceList>
          <destinationList>
            <destination
type="urn:epcglobal:cbv:sdt:location">urn:lote:id:loc:WAA1a18</destination>
          </destinationList>
        </extension>
        <lote:intendedRoute>Lausanne - Zurich - Zagreb</lote:intendedRoute>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T03:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	62d018f0-24c7-4ee4-80c3-6453b64b7b23
<epcList>	List of shipped eps	List of urn	
<epc>	Item	urn	<epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc>
<readPoint>	Location where event is captured	urn	<id>urn:lote:id:loc:WAA1a17</id>
<source>	Source location of shipping	urn	<source type="urn:epcglobal:cbv:sdt:location">urn:lote:id:loc:WAA1a17</source>
<destination>	Destination location of shipping	urn	<destination type="urn:epcglobal:cbv:sdt:location">urn:lote:id:loc:WAA1a18</destination>
<bizTransaction>	Invoice ID (optional)	urn	urn:lote:epcis:bt:inv:12345

Field	Description	Type	Example
<lote:intendedRoute>	Intended route	String	Lausanne – Zurich - Zagreb

7.6 DESTROY

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T04:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:72d018f0-24c7-4ee4-80c3-6453b64b7b23</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc>
        </epcList>
        <action>DELETE</action>
        <bizStep>urn:epcglobal:cbv:bizstep:destroying</bizStep>
        <disposition>urn:epcglobal:cbv:disp:destroyed</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1a17</id>
        </readPoint>
        <bizLocation>
          <id>urn:lote:id:loc:WAA1a17</id>
        </bizLocation>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T04:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	72d018f0-24c7-4ee4-80c3-6453b64b7b23
<epc>	Item	urn	<epc>urn:epc:id:ext:UKVDSDRY/AHMEXRM02310</epc>
<disposition>	Status of serial numbers after event is processed	urn	urn:epcglobal:cbv:disp:destroyed - destroy urn:epcglobal:cbv:disp:stolen - stolen urn:epcglobal:cbv:disp:expired - lost urn:epcglobal:cbv:disp:damaged - wasted
<readPoint>	Location where event is captured	urn	<id>urn:lote:id:loc:WAA1a17</id>
<bizLocation>	Location where event happened	urn	<id>urn:lote:id:loc:WAA1a17</id>

7.7 SALE

```
<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" xmlns:lote="urn:sicpa:lote:xsd:1"
schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T02:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:52d018f0-24c7-4ee4-80c3-6453b64b7c24</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:lote:id:agg:WAA112NM22PK9D90ERA783WP2</epc>
        </epcList>
        <action>OBSERVE</action>
        <bizStep>urn:epcglobal:cbv:bizstep:retail_selling</bizStep>
        <disposition>urn:epcglobal:cbv:disp:retail_sold</disposition>
        <readPoint>
          <id>urn:lote:id:loc:WAA1a17</id>
        </readPoint>
        <bizTransactionList>
          <bizTransaction
type="urn:epcglobal:cbv:bt:inv">urn:lote:epcis:bt:inv:12345</bizTransaction>
        </bizTransactionList>
        <lote:customer>Some customer name</lote:customer>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T02:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	52d018f0-24c7-4ee4-80c3-6453b64b7b23
<epcList>	List of shipped epscs	List of urn	
<epc>	Item	urn	<epc>urn:lote:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc>
<readPoint>	Location where event is captured	urn	<id>urn:lote:id:loc:WAA1a17</id>
<bizTransaction>	Invoice ID (optional)	urn	urn:lote:epcis:bt:inv:12345
<lote:customer>	Customer	String	Some customer name

7.8 RETURN FROM CUSTOMER

```

<?xml version="1.0"?>
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" xmlns:lotec="urn:sicpa:lotec:xsd:1"
schemaVersion="1.2" creationDate="2024-05-26T18:29:46.076Z">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2024-05-24T07:00:00.000+02:00</eventTime>
        <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
        <baseExtension>
          <eventID>urn:uuid:82d018f0-24c7-4ee4-80c3-6453b64b7c24</eventID>
        </baseExtension>
        <epcList>
          <epc>urn:lotec:id:agg:WAA112NM22PK9D90ERA783WP2</epc>
        </epcList>
        <action>OBSERVE</action>
        <bizStep>urn:epcglobal:cbv:bizstep:receiving</bizStep>
        <disposition>urn:epcglobal:cbv:disp:returned</disposition>
        <readPoint>
          <id>urn:lotec:id:loc:WAA1a17</id>
        </readPoint>
        <bizTransactionList>
          <bizTransaction
type="urn:epcglobal:cbv:bt:inv">urn:lotec:epcis:bt:inv:12345</bizTransaction>
        </bizTransactionList>
        <lotec:customer>Some customer name</lotec:customer>
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>

```

Field	Description	Type	Example
<eventTime>	Time when event happened	Time Stamp	2024-05-24T02:00:00.000+02:00
<eventTimeZoneOffset>	Time Zone Offset to UTC	Integer	+02:00
<eventID>	Unique ID of event generated by source system – reference in source system	UUID	52d018f0-24c7-4ee4-80c3-6453b64b7b23
<epcList>	List of shipped epscs	List of urn	
<epc>	Item	urn	<epc>urn:lotec:id:agg:WAA1a12NM22PK9D90ERA783WP2</epc>
<readPoint>	Location where event is captured	urn	<id>urn:lotec:id:loc:WAA1a17</id>
<bizTransaction>	Invoice ID (optional)	urn	urn:lotec:epcis:bt:inv:12345
<lotec:customer>	Customer	String	Some customer name

7.9 GS1 FORMATS

LOTE supports some GS1 code formats for aggregation codes.
Supported formats: SGTIN, SSCC

- **COMPANY PREFIX**

Due to differences in how these codes are formatted in EPCIS events, barcodes and data matrices, company prefixes must be registered before they can be used.

One prefix can be registered for each tenant, in Tenants MD:

Company information

Taxpayer Identification Number (TIN)

GS1 Company Prefix

Company prefix must have between 5 and 12 digits.

SSCC

Serial Shipping Container code

EPCIS URN

In EPCIS events, the SSCC must be formatted as a URN:
urn:epc:id:sscc:<company_prefix>.<extension_digit><serial_number>

Example value:

urn:epc:id:sscc:8410100.0000000001

Code128 / Datamatrix

SSCCs are typically printed as Code128 barcodes. Datamatrix is also supported by the mobile application. In printed codes, the SSCC must have the following format:

Field	AI 00		Extension digit	Company prefix (5-12 digits)							Serial Number (6-11 digits)						Check digit
Example	0	0	0	8	4	1	0	1	0	0	0	0	0	0	0	1	5

- AI must always be 00
- Extension digit can be any value
- Company prefix + serial number must add up to 16 digits
- Check digit is calculated on extension digit + company prefix + serial number (without the AI).
 - An online calculator can be used [Check digit calculator - Services | GS1](#)

Example value:

00084101000000000015

- The extension digit is not in the same place in the URN and the barcode representation!
- The URN does not include the AI and the check digit

SGTIN

Serialized Global Trade Item Number

EPCIS URN

In EPCIS events, the SGTIN must be formatted as a URN:

urn:epc:id:sgtin:<company_prefix>.<extension digit><item_reference>.<serial_number>

Example value:

urn:epc:id:sgtin:8410100.000001.ABCD01

Code128 / Datamatrix

SGTINs are typically printed as Datamatrix. Code128 is also supported by the mobile application. In printed codes, the SGTIN must have the following format:

Field	AI 01	Extension digit	Company prefix (5-12 digits)	Item reference (0-7 digits)	Check digit	AI 21	Serial number (max 30 chars)
Example	0 1	0	8 4 1 0 1 0 0	0 0 0 0 0 1	5	2 1	A B C D 0 1

- 1st AI must always be 01
- Extension digit can be any value
- Company prefix + item reference must add up to 13 characters
- Check digit is calculated on extension digit + company prefix + item reference.
 - extension digit + company prefix + item reference + check digit = GTIN-14
 - An online calculator can be used [Check digit calculator - Services | GS1](#)
- 2nd AI must always be 21
- Serial number can be up to 30 characters from GS1's 82-character set

Example value:

010841010000001521ABCD01

- The extension digit is not in the same place in the URN and the barcode representation!
- The URN does not include the AIs and the check digit



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