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de produit électronique — Spécification*



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# EPC Information Services (EPCIS) Version 1.1 Specification

GS1 Standard

Version 1.1, May 2014





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## 2 Abstract

3 This document is a GS1 Standard that defines Version 1.1 of EPC Information Services (EPCIS).  
4 The goal of EPCIS is to enable disparate applications to create and share visibility event data,  
5 both within and across enterprises. Ultimately, this sharing is aimed at enabling users to gain a  
6 shared view of physical or digital objects within a relevant business context.

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8 This section describes the status of this document at the time of its publication. Other  
9 documents may supersede this document. The latest status of this document series is  
10 maintained at GS1. See [www.gs1.org/gsmf](http://www.gs1.org/gsmf) for more information.

11 This version of the GS1 EPCIS 1.1 Standard is the ratified version and has completed all GSMP  
12 steps.

13 Comments on this document should be sent to [gsmf@gs1.org](mailto:gsmf@gs1.org).

## 14 Differences from EPCIS 1.0.1

15 EPCIS 1.1 is fully backward compatible with EPCIS 1.0.1.

16 EPCIS 1.1 includes these new or enhanced features:

- 17 • Support for class-level identification is added to `ObjectEvent`, `AggregationEvent`,  
18 and `TransformationEvent` through the addition of quantity lists.
- 19 • A new event type, `TransformationEvent`, provides for the description of events in  
20 which inputs are consumed and outputs are produced.
- 21 • The “why” dimension of all event types are enhanced so that information about the sources  
22 and destinations of business transfers may be included.
- 23 • The “why” dimension of certain event types are enhanced so that item/lot master data may be  
24 included.
- 25 • The `SimpleEventQuery` is enhanced to encompass the above changes to event types.
- 26 • The introductory material is revised to align with the GS1 System Architecture.
- 27 • The XML extension mechanism is explained more fully.
- 28 • The `QuantityEvent` is deprecated, as its functionality is fully subsumed by  
29 `ObjectEvent` with the addition of quantity lists.

30



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## 110 Introduction

111 This document is a GS1 Standard that defines Version 1.1 of EPC Information Services (EPCIS).  
 112 The goal of EPCIS is to enable disparate applications to create and share visibility event data,  
 113 both within and across enterprises. Ultimately, this sharing is aimed at enabling users to gain a  
 114 shared view of physical or digital objects within a relevant business context.

115 “Objects” in the context of EPCIS typically refers to physical objects that are identified either at  
 116 a class or instance level and which are handled in physical handling steps of an overall business  
 117 process involving one or more organizations. Examples of such physical objects include trade  
 118 items (products), logistic units, returnable assets, fixed assets, physical documents, etc. “Objects”  
 119 may also refer to digital objects, also identified at either a class or instance level, which  
 120 participate in comparable business process steps. Examples of such digital objects include digital  
 121 trade items (music downloads, electronic books, etc.), digital documents (electronic coupons,  
 122 etc), and so forth. Throughout this document the word “object” is used to denote a physical or  
 123 digital object, identified at a class or instance level, that is the subject of a business process step.  
 124 EPCIS data consist of “visibility events,” each of which is the record of the completion of a  
 125 specific business process step acting upon one or more objects.

126 The EPCIS standard was originally conceived as part of a broader effort to enhance collaboration  
 127 between trading partners by sharing of detailed information about physical or digital objects. The  
 128 name EPCIS reflects the origins of this effort in the development of the Electronic Product Code  
 129 (EPC). It should be noted, however, that EPCIS does not require the use of Electronic Product  
 130 Codes, nor of Radio-Frequency Identification (RFID) data carriers, and as of EPCIS 1.1 does not  
 131 even require instance-level identification (for which the Electronic Product Code was originally  
 132 designed). The EPCIS standard applies to all situations in which visibility event data is to be  
 133 captured and shared, and the presence of “EPC” within the name is of historical significance  
 134 only.

135 EPCIS provides open, standardised interfaces that allow for seamless integration of well-defined  
 136 services in inter-company environments as well as within companies. Standard interfaces are  
 137 defined in the EPCIS standard to enable visibility event data to be captured and queried using a  
 138 defined set of service operations and associated data standards, all combined with appropriate  
 139 security mechanisms that satisfy the needs of user companies. In many or most cases, this will  
 140 involve the use of one or more persistent databases of visibility event data, though elements of  
 141 the Services approach could be used for direct application-to-application sharing without  
 142 persistent databases.

143 With or without persistent databases, the EPCIS specification specifies only a standard data  
 144 sharing interface between applications that capture visibility event data and those that need  
 145 access to it. *It does not specify how the service operations or databases themselves should be*  
 146 *implemented.* This includes not defining how the EPCIS services should acquire and/or compute  
 147 the data they need, except to the extent the data is captured using the standard EPCIS capture  
 148 operations. The interfaces are needed for interoperability, while the implementations allow for  
 149 competition among those providing the technology and implementing the standard.

150 EPCIS is intended to be used in conjunction with the GS1 Core Business Vocabulary (CBV)  
 151 standard [CBV1.1]. The CBV standard provides definitions of data values that may be used to  
 152 populate the data structures defined in the EPCIS standard. The use of the standardized  
 153 vocabulary provided by the CBV standard is critical to interoperability and critical to provide for

154 querying of data by reducing the variation in how different businesses express common intent.  
155 Therefore, applications should use the CBV standard to the greatest extent possible in  
156 constructing EPCIS data.