



ONIX for ISTC Registration: message format overview

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Changes from Version 1.0

- General Version number updated to 1.0.1 throughout.
- Page 3 Modified example to incorporate newly-allocated EDItEUR namespace.
- Page 4 Section 4: added details of EDItEUR namespace.
- Page 6 Line 21: added suggested <SentDateTime> format.
Lines 5 and 13: clarified status of <IDTypeName>.
- Page 8 Line 2: added suggested <RegistrantsInternalReference> format.
- Page 10 Line 13: clarified format of *language* and *script* attributes, and deprecated use of these attributes.
Line 15: inserted reference to obsolete <LanguageOfTitle> element.
- Page 13 Line 45: deprecated use of attributes.

Changes from Version 0.91, used for piloting

- General Version number updated to 1.0, and schema URI inserted as required.
- Page 4 Revisions to table of ‘Message interchanges’.
- Page 6 Line 5: added new code value 06.
- Page 7 Lines 9 and 10: amendments to descriptive wording.
- Page 8 Line 14: amendment to description of code 01.
Deleted <LanguageOfTitle> element.
- Page 11 Line 34: amendment to descriptive wording.
Line 35: added new code value 07.
- Page 12 Line 40: amendment to descriptive wording.

1. Introduction

This document is an overview of the ONIX format for registering ISTC assignments (ONIX-ISTC). The format is intended for use by registrants sending a registration request to an ISTC registration agency, and also by an ISTC registration agency sending back a response to a registrant.

The table below gives a top-level view of the format:

1	<ONIXISTCRegistrationMessage version="1.0">	Version 1.0	
2	<Header>	A mandatory header identifying the sender and receiver, and giving the message date and other control information	1
3	<ISTCRegistrationRecord>	A composite that describes the details of an individual registration	1-n
4	</ONIXISTCRegistrationMessage>	End of message	

The key elements in an ONIX-ISTC message are (i) a message header which identifies sender and receiver and carries a limited amount of other data pertinent to the message as a whole; and (ii) an unlimited number of <ISTCRegistrationRecord> composites.

2. Message structure

The overall structure of an ONIX-ISTC message is illustrated more exactly on the next page. It has the following components:

XML declarations

The first line of each message is a line of "XML declarations", explained in Section 3.

Start of message

The second line announces the start of an ONIX-ISTC message, declares which version of the ONIX-ISTC format is being used, and states the location of the ONIX-ISTC XML Schema for the specified format version, against which the message should be valid when checked by an XML schema parser (XML syntax checking tool) – see Section 4.

Message header

The first element of the message is the mandatory header, identifying the sender and addressee of the message, with some additional "housekeeping" information.

Registration records

The body of the message consists of an indefinite number of ISTC Registration Records. The order of such elements in the message is not significant.

End of message

The message ends with a single line </ONIXISTCRegistrationMessage>

```

<?xml version="1.0" encoding="UTF-8"?>
<ONIXISTCRegistrationMessage version="1.0"
xmlns="http://ns.editeur.org/onix/istc/1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://ns.editeur.org/onix/istc/1.0
http://resource.bowker.com/istc/ONIX_ISTC_Metadata.1.0.1.xsd">
  <Header>
    Message header
  </Header>
  <ISTCRegistrationRecord>
    Registration record 1
  </ISTCRegistrationRecord>
  <ISTCRegistrationRecord>
    Registration record 2
  </ISTCRegistrationRecord>
  <ISTCRegistrationRecord>
    -----
  </ISTCRegistrationRecord>
</ONIXISTCRegistrationMessage>

```

3. XML declarations

The XML declarations line at the start of the file simply alerts any receiving system to the fact that this is an XML file and that the character encoding used in this file is Unicode (UTF-8). Although it is not obligatory in general for an XML file to contain an XML declarations line, it is a requirement for the ONIX-ISTC format that it be included, to avoid uncertainty as to the intended format and encoding of an ONIX-ISTC message. Adoption of UTF-8 is very strongly recommended since (a) it is the default encoding for any XML string, and (b) alternative encodings frequently create problems with the representation of extended character sets.

If the file is generated using software tools that are "XML-aware", the chances are that this line will be inserted automatically and with the correct information. However, if the file is generated using tools that are not "XML-aware" – for example, by a conventional report generator on a database management system – care must be taken to ensure that this line is correct in every detail, and that the character encoding of the file is indeed Unicode and not some other encoding (eg the Windows character set, which is the same as ISO 8859-1). Developers of systems for generating ONIX-ISTC messages are advised to pay particular attention to this point.

4. Start of message

The second line contains the XML "tag" that marks the start of the message. This is not the place for a detailed explanation of XML syntax, but as this line contains further vital "XML declarations", some description is necessary:

< marks the beginning of the XML tag.

ONIXISTCRegistrationMessage is the name of the top-level XML "element" and must immediately follow < without any intervening space or other characters.

A mandatory space follows the name of the top-level element.

version="1.0" is a mandatory XML "attribute" that specifies the ONIX-ISTC message format version number.

A mandatory space follows the version number.

`xmlns="http://ns.editeur.org/onix/istc/1.0"` is a mandatory XML “namespace declaration” for the ISTC Registration message.

A mandatory space follows the namespace declaration.

`xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"` is a mandatory namespace declaration for the attribute that follows.

A mandatory space follows the second namespace declaration.

`xsi:schemaLocation=" http://ns.editeur.org/onix/istc/1.0 http://resource.bowker.com/istc/ONIX_ISTC_Metadata.1.0.1.xsd"` is a mandatory XML attribute that links the URI of the message namespace to the URI of the ONIX-ISTC schema to be used to validate the message against the schema rules. Note that this specifies a copy of the schema hosted by Bowker. For validation of large numbers of XML files, it is advisable to download and host a local copy of the schema, changing the resource.bowker.com... address to the address of the local copy.

> marks the end of the XML tag, and may be preceded by a space.

5. Record types and message “choreography”

(By “choreography”, we mean the rules by which messages are exchanged.)

The message format recognizes four record types, relating to four possible message sequences:

New registration: the registration of an ISTC for a work not previously registered.

Amendment to metadata: an amendment to the metadata recorded for an existing ISTC.

Deduplication: in circumstances where two ISTCs have been assigned to what has subsequently been recognized as a single work, a deduplication record is sent for one of the two ISTCs, citing the other as the “preferred” ISTC.

Cancellation: in what should be rare circumstances where a work has been registered but the registration is subsequently withdrawn (eg because the work was abandoned), a cancellation record can be sent.

In each of the four cases, a single record type is used for all communications in either direction between the registrant (“user” in the table in Section 6) and the Registration Agency, with different request status values to indicate the progress of the request.

In all four cases also, the full current metadata is carried in all records, so that at any stage it is available for checks that either an RA or the central registration system may need to apply.

The table in Section 6 details all possible interchanges, and indicates the use of key elements in each interchange.

6. Message interchanges

	From / To	ISTC Record Type	ISTC	ISTC Request Status	ISTC Request Performed Date	Notes
New registration request	User to RA	01	No	01	No	Use for a new request which the sender has not verified before submission
Registration accepted	RA to user	01	Yes	02	Yes	Must specify the ISTC that has been assigned to the work
Returned for verification	RA to user	01	No	03	No	Must specify one or more ISTCs of potential duplicate works in <QueryExistingISTC>
Request sent after verification	User to RA	01	No	04	No	Use for a new request which the sender has verified before submission, or for resubmission of a request which was returned for verification. Must include the ISTCs of potential duplicate works in <QueryExistingISTC>.
Cannot process	RA to user	01	No	05	No	Request is invalid or incomplete
Work registered already	RA to user	01	Yes	06	No	Request matches a record already on the database
Amendment request	User to RA	02	Yes	01	No	Must specify the ISTC whose metadata is being amended
Amendment accepted	RA to user	02	Yes	02	Yes	Must specify the ISTC whose metadata is being amended
Amendment returned for verification	RA to user	02	Yes	03	No	Must specify the ISTC whose metadata is being amended; also one or more ISTCs of potential duplicate works in <QueryExistingISTC>
Amendment resubmitted after verification	User to RA	02	Yes	04	No	Must specify the ISTC whose metadata is being amended; and include the ISTCs of potential duplicate works in <QueryExistingISTC>
Cannot process	RA to user	02	Yes	05	No	Request is invalid or incomplete
Deduplication request	User to RA	03	Yes	01	No	Must specify the future preferred ISTC in <PreferredISTC>
Deduplication accepted	RA to user	03	Yes	02	Yes	Must specify the future preferred ISTC in <PreferredISTC>
Deduplication returned for verification	RA to user	03	Yes	03	No	Must specify the future preferred ISTC in <PreferredISTC>
Deduplication resubmitted after verification	User to RA	03	Yes	04	No	Must specify the future preferred ISTC in <PreferredISTC>
Cannot process	RA to user	03	Yes	05	No	Request is invalid or incomplete
Cancellation request	User to RA	04	Yes	01	No	Must specify the ISTC whose record is being marked as cancelled
Cancellation accepted	RA to user	04	Yes	02	Yes	Must specify the ISTC whose record is being marked as cancelled
Cancellation resubmitted	User to RA	04	Yes	04	No	
Cannot process	RA to user	04	Yes	05	No	Request is invalid or incomplete

7. Header

	XML tag	Description	Data content	
1	<Header>	Message header	Composite	1
2	<Sender>	The sender of the message (coded identifier or name or both)	Composite	1
3	<SenderIdentifier>	Composite: a coded identifier of the message sender	Composite	0-n
4	<SenderIDType>	A controlled value specifying a scheme from which an identifier is taken	14 ISTC Agency ID scheme: an ID scheme maintained by an ISTC registration agency	1
5	<IDTypeName>	Note that this data element was included in some test versions of the ONIX for ISTC Registration schema, but was removed before publication of version 1.0. It is not used by the ISTC Registration system, and should not be included in registration messages.	Not used	
6	<IDValue>	An identifier value, from the specified scheme	Values from ISTC Agency schemes will be made globally unique by prefixing them with the three-digit code for the agency concerned.	1
7	<SenderName>	The name of the sender organization	Free text	0-1
8	<SenderContact>	The name of a contact person in the sender organization	Free text	0-1
9	<SenderEmail>	An email address for the sender	Free text	0-1
10	<Addressee>	The addressee of the message (coded identifier or name or both)	Composite	1-n
11	<AddresseeIdentifier>	Composite: a coded identifier of the message addressee	Composite	0-n
12	<AddresseeIDType>	A controlled value specifying a scheme from which an identifier is taken	14 ISTC Agency ID scheme: an ID scheme maintained by an ISTC registration agency	1
13	<IDTypeName>	Note that this data element was included in some versions of the ONIX for ISTC Registration schema. It is not used by the ISTC Registration system, and should not be included in registration messages.	Not used	
14	<IDValue>	An identifier value, from the specified scheme	See line 4 above	1
15	<AddresseeName>	The name of the addressee organization	Free text	0-1
16	<AddresseeContact>	The name of a contact person in the addressee organization	Free text	0-1
17	<AddresseeEmail>	An email address for the addressee	Free text	0-1
18	<Test/>	An XML "empty element" which, if present, specifies that the message is a test		0-1
19	<MessageNumber>	Message sequence number	Integer	0-1

	XML tag	Description	Data content	
20	<MessageRepeat>	A number which distinguishes any repeat transmissions of a message	Integer 1, 2, 3	0-1
21	<SentDateTime>	The date, and optionally the time, when a message was sent	Suggested format is YYYYMMDDThhmm±hhmm, see ONIX for Books specification for other allowed formats	1
22	<MessageNote>	A free-text note about the contents of the message	Free text	0-1

8. ISTC Registration Record

	XML tag	Description	Data content	
1	<ISTCRegistrationRecord>		Composite	1-n
2	<RegistrantsInternalReference>	A reference used by the registrant to identify the request in their internal workflow management system. If included in an original request, it must be repeated in all subsequent interchanges related to the request.	Free form. Suggested format is to use reversed domain name followed by internal reference number, to ensure uniqueness, eg com.publisher.www.123456	0-1
3	<ISTCRecordType>	A controlled value specifying a type of a registration record, eg new registration, correction to metadata. See also Table in Section 6.	01 New registration 02 Amendment to metadata 03 Deduplication 04 Cancellation	1
4	<ISTC>	The ISTC that is associated with the work metadata in a registration record, sent as a 16-character string, without spaces or hyphens. See also Table in Section 6.	Example: 0A9200212B4A1057	0-1
5	<ISTCRequestStatus>	A controlled value specifying the status of a request. See also Table in Section 6.	01 Requested 02 Accepted 03 Returned for verification: used with <QueryExistingISTC> 04 Request sent after verification: used with <QueryExistingISTC> either in a new request which has been verified by the sender or in a request resubmitted after a "Returned for verification" message, to confirm that works cited as potential duplicates can be ignored when attempting to register this record. Use of this value requires approval by the registration agency. 05 Cannot process: request is invalid or incomplete 06 Work already registered	1
6	<ISTCRequestPerformedDate>	Date when an ISTC registration, amendment, deduplication or cancellation request is accepted and performed on the international ISTC database. See also Table in Section 6.	YYYYMMDD	0-1
7	<ISTCWorkType>	A controlled value specifying a type of a work. [This is NOT the "work type" referred to in the standard, which is handled in the <Origination> and <DerivationType> elements.]	00 Undefined 01 Prose 02 Lyrics (for sung musical works)	1-n

	XML tag	Description	Data content	
	<ISTCWorkType> (continued)		03 Poetry 04 Script – screen (scripts / directions for recorded audiovisual performances, including screenplays, teleplays, scripts for television or film documentaries) 05 Script – audio (scripts / directions for radio plays and other predominantly non-musical audio-only performances) 06 Script – stage (scripts / directions for live audiovisual performances) 07 Script – other (scripts / directions for performances not covered by 04, 05 or 06, including sermons, speeches, presentations and lectures)	
8	<Origination>	A controlled value specifying the origination status of a work.	00 Unspecified / unknown 01 Original 02 Derived	1
9	<Derivation>	A composite that gives details of a derivation of a work when the <Origination> is <i>Derived</i> . Repeatable if two or more derivations apply to the same work. Mandatory when <Origination> = 02.	Composite	0-n
10	<DerivationType>	A controlled value specifying a type of derivation in relation to the work (optionally) identified by <SourceISTC>.	00 Unspecified 01 Abridged 02 Annotated 03 Compilation 04 Critical 05 Excerpt 06 Expurgated 07 Non-text material added or revised 08 Revised 09 Translated 10 Adaptation	1
11	<DerivationNote>	Further information about a complex or uncertain derivation.	Free text	0-1

	XML tag	Description	Data content	
12	<SourceISTC>	An ISTC that identifies a work from which the registered work is wholly or partly derived, repeatable if more than one source work is cited for a single DerivationType. An ISTC is sent as a 16-character string, without spaces or hyphens.	Example: 0A9200212B4A1057	0-n
13	<Title>	A composite that gives a title of a work, repeatable for as many different types of title as are supplied.	Composite: has optional <i>language</i> and <i>script</i> attributes, using four-letter codes from ISO 15924 for script and three-letter codes from ISO 639-2/B for language, but these are DEPRECATED . See <TitleScript> (line 15) instead	1-n
14	<ISTCTitleType>	A controlled value specifying the type of a title. A registration record must have at least one title of title types 00, 01, 02 or 03, and only one occurrence of each of these four types is allowed. Multiple occurrences of types 04 and/or 05 are permitted.	00 Undefined: the title by which a registrant refers to a work, if not of type 01, 02 or 03 01 Original title: a title known to have been given to the work by its creator 02 Uniform title: a title determined by a library in accordance with AACR2 or similar rules 03 Opening words: up to 10 opening words of a text 04 Parallel title: a title in another language or script 05 Other title: any other title by which the work is known	1
15	<LanguageOfTitle>	Note that this data element was included in some test versions of the ONIX for ISTC Registration schema, but was removed before publication of version 1.0. It is not used by the ISTC Registration system, and should not be included in registration messages.	Not used	
16	<TitleScript>	An ISO script code that specifies the script in which a title is written.	ISO 15924 four-letter code	0-1
17	<TitleText>	The text of a title.	Free text	1
18	<Subtitle>	A subtitle associated with a title.	Free text	0-1
19	<EditionNumber>	A number assigned to a version or edition, stated as a cardinal Arabic number.		0-1
20	<EditionStatement>	Any designation of a version or edition other than a date or an Arabic number, in the form in which it is stated in the work.	Free text	0-1
21	<WorkDate>	A composite that specifies a date associated with a work.	Composite: repeatable if more than one date is associated with a work.	0-n

	XML tag	Description	Data content	
22	<WorkDateRole>	A controlled value specifying the role of a date.	01 Nominal date: a date that is associated with a work to distinguish it from other related works. 02 First published date: a date when a first manifestation of a work was published. 03 Author active date: a date when an author of a work is known to have been active	1
23	<Calendar>	A controlled value specifying the calendar used for the date. If omitted, the date is assumed to be from the conventional Western calendar for the Common Era.	00 CE: Common Era 01 Hebrew 02 BCE: Before Common Era 03 AH: Islamic	0-1
24	<DateFormat>	A controlled value specifying the format of a date.	00 YYYYMMDD (year month day) 01 YYYYMM (year month) 05 YYYY (year) 06 YYYYMMDDYYYYMMDD (spread of exact dates) 07 YYYYMMYYYYMM (spread of months) 11 YYYYYYYY (spread of years) 12 Text string (for complex, approximate or uncertain dates)	1
25	<Date>	A date in the specified format.		1
26	<Contributor>	A composite that identifies an author or other contributor, repeatable for each named contributor. If there is no known contributor, there must be a single instance of the <Contributor> composite with <ISTCContributorRole> = 00 and with the empty element <Anonymous/>.	Composite	1-n
27	<ISTCContributorRole>	A controlled value specifying a role that is played by a contributor to a work.	00 Unspecified 01 Author 02 Author of supplementary text 03 Creator of other (non-text) content 04 Editor or reviser 05 Translator 06 Compiler 07 Excerpter	1-n
28	<ContributorIdentifier>	A composite that carries an identifier of a contributor: repeatable only if the same contributor is identified using two or more schemes.	Composite	0-n

	XML tag	Description	Data content	
29	<ContributorIDType>	A controlled value specifying a scheme from which a contributor identifier is taken.	02 Deutsche Bibliothek Personennormdatei 03 ISNI (International Standard Name Identifier) 04 LCCN (LC control number assigned to a Library of Congress Name Authority record)	1
30	<IDValue>	An identifier value from a specified scheme.		1
31	<PersonName>	A name of a contributor who is a natural person; entered as a text string in the normal non-inverted form in which the full name is expressed in the culture from which it comes. Where a pseudonym is used, the text string may include both the real name and the pseudonym, eg "Ruth Rendell / Barbara Vine". Each instance of the <Contributor> composite must carry one and only one of the elements <PersonName>, <CorporateName> and <Anonymous/>.	Free text	0-1
32	<CorporateName>	A name of a contributor that is a corporate body.	Free text	0-1
33	<Anonymous/>	An empty element that specifies that a contributor to a work is unknown.	Empty element: <Anonymous/>	0-1
34	<LanguageOfText>	An ISO language code that specifies a language in which a work is written, repeatable if the text is in more than one language.	ISO 639-2/B three-letter codes.	1-n
35	<Registrant>	A composite that identifies a registrant. In order to authorize a change, deduplication or cancellation to an existing ISTC record, the value(s) for <Registrant> must be identical on the request and the database record.	Composite	1
36	<ISTCRegistrantRole>	A controlled value specifying a role that is played by a registrant of a work, eg <i>author</i> .	00 Unspecified 01 Author: a creator of all or part of the content of the work being registered 02 Creator of derived work: a creator of all or part of a work derived from the work being registered: used when a creator of a derived work registers the original work from which it is derived 03 Agent: a person or organization (other than a collective rights society) that acts on behalf of a creator 04 Publisher 05 Collective rights society 06 Library 07 ISTC Registration Agency	1

	XML tag	Description	Data content	
37	<RegistrantIdentifier>	A composite that carries an identifier of a registrant: each instance of the <Registrant> composite must carry a <RegistrantIdentifier> or a name (or both)	Composite	0-n
38	<RegistrantIDType>	A controlled value specifying a scheme from which a registrant identifier is taken	14 ISTC Agency ID scheme: an ID scheme maintained by an ISTC registration agency	1
39	<IDValue>	An identifier value from a specified scheme		1
40	<Name>	A name of a registrant	Free text	0-1
41	<Manifestation>	A composite that identifies a manifestation of the registered work, for information only; repeatable if more than one manifestation is cited. NB: this is NOT part of the essential work metadata and is for the registrant's use only; it will NOT be visible on the ISTC database.	Composite	0-n
42	<PublicationIdentifier>	A composite that carries an identifier of a publication in which the work is manifested: each instance of the <Manifestation> composite must carry a <PublicationIdentifier> or a <PublicationTitle> (or both); repeatable only if the same publication is identified using two or more schemes	Composite	0-n
43	<PublicationIDType>	A controlled value specifying a scheme from which a publication identifier is taken, eg ISBN13	01 Proprietary 02 ISBN10: 10-character ISBN 04 UPC: 12-character Universal Product Code 06 DOI 13 LCCN: Library of Congress Control Number 15 ISBN13: 13-character ISBN 17 Legal deposit number 21 URL	1
44	<IDValue>	An identifier value from a specified scheme.		1
45	<PublicationTitle>	The title that appears on a manifestation of the registered work, including any added elements such as set or series title and enumeration that are needed to make the title distinctive.	Free text: has optional <i>language</i> and <i>script</i> attributes, using ISO codes cited in line 13 but these are DEPRECATED .	0-1

	XML tag	Description	Data content	
46	<Publisher>	A composite that identifies a publisher of a manifestation of the registered work.	Composite	0-n
47	<PublisherIdentifier>	A composite that carries an identifier of a publisher: each instance of the <Publisher> composite must carry a <PublisherIdentifier> or a name (or both); repeatable only if the same publisher is identified using two or more schemes.	Composite	0-n
48	<PublisherIDType>	A controlled value specifying a scheme from which a publisher identifier is taken.	14 ISTC Agency ID scheme: an ID scheme maintained by an ISTC registration agency	1
49	<IDValue>	An identifier value from a specified scheme		1
50	<Name>	A name of a publisher	Free text	0-1
51	<QueryExistingISTC>	Used only if the registration record is returned from the central registration system for further verification: an ISTC that identifies a work whose metadata suggests that it may be the same as the work for which a new registration has been requested, repeatable if more than one such work has been found. An ISTC is sent as a 16-character string, without spaces or hyphens.	Example: 0A9200212B4A1057	0-n
52	<PreferredISTC>	Used only in a deduplication request with <ISTCRecordType> = 03: the ISTC from the duplicate pair which should be used in future. An ISTC is sent as a 16-character string, without spaces or hyphens.	Example: 0A9200212B4A1057	0-1