



Consiglio Nazionale delle Ricerche

**Science & Technology Digital Library**

Anna Rovella, Paola Rizzitano, Iryna Solodovnik

IIT TR-06/2014

**Technical report**

**Marzo 2014**



**Istituto di Informatica e Telematica**

## Science & Technology Digital Library

Deliverable Title: Science & Technology Digital Library Project \_ MetadataCore Model

DeliverableID:

Submission date: February 2014

Work Package: WP10

Deliverable Status: Draft

Version: 1.0

Author: Anna Rovella, Paola Rizzitano, Iryna Solodovnik – IIT CNR

Nature: Report

## Sommario

Abstract .....	5
1. Introduzione .....	5
2. Standard di Riferimento .....	7
3. Scopo del documento .....	8
4. Una presentazione del modello generale di Metadati del Progetto Science and Technology Digital Library .....	9
5. I metadati Core del modello di Metadati del Progetto Science and Technology Digital Library .....	13
STDLPMetadataCoreElement .....	15
1. IDENTITY Metadata_Group .....	21
1.1 Identifier .....	22
1.1.1 IDValue .....	22
1.1.2. IDScheme .....	23
1.1.3. DescriptionLevel/AggregationLevel .....	24
2. DESCRIPTION Metadata_Group .....	25
2.1. Title .....	27
2.1.1. Subtitle .....	28
2.1.2. TranslatedTitle .....	28
2.1.3. AbbreviatedTitle .....	28
2.1.4. AlternativeTitle .....	29
2.2. Type .....	30
2.2. 1. Item Type .....	31
2.3. Creator .....	31
2.4. Description .....	32

2.4.1. Subject.....	33
2.4.2. Abstract .....	34
2.4.3. TableOfContents .....	34
2.4.4. BibliographicCitation.....	35
2.5. Coverage.....	35
2.6. Location .....	36
2.7. Date .....	38
2.7.1. DateRange .....	39
2.8. Extent .....	39
2.9. AccrualMethod.....	40
2.9.1. AccrualPeriodicity.....	40
2.9.2. AccrualPolicy .....	41
2.10. Language .....	41
2.11. Note.....	42
3. USE Metadata_Group .....	43
3.1 Rights.....	45
3.1.1. RightsDescription .....	45
3.1.2. RightsType .....	46
3.1.3. RightsStatus.....	46
3.1.4. RightsDate .....	47
3.1.5. RightsHolder.....	47
3.2 AccessRights .....	48
3.2.1. SecurityClassification.....	48

3.2.2. Caveat.....	49
3.2.3. UseConditions .....	50
3.2.4. AccessStatement .....	50
3.2.5. DeterminationDate .....	51
3.2.6. ReviewDueDate .....	51
3.2.7. Permissions .....	52
3.3. Provenance.....	52
3.4. Instructional Method .....	53
3.5. Owner.....	53
3.6. Audience.....	53
3.7. Format .....	54
3.7.1. Medium .....	54
3.7.2. Software .....	55
3.7.3. IntegrityCheck .....	55
3.7.4. Signature .....	55
3.7.5. Encryption .....	56
4.RELATION Metadata_Group .....	57
4.1. RelatedEntity ID.....	57
4.2. RelationType.....	58
4.3. RelationshipDescription .....	59
4.4. RelationshipDate .....	59

## Abstract

This document contains information on the activities carried out within the project Science & Technology Digital Library and in particular, it describes the Metadata Core Reference Model. Metadata are strategic for semantic interoperability to and, from the repository. Metadata are essential for available and safe management of digital objects, and for their sustainability and preservation. For these reasons, the project needs to define a specific metadata model. The purpose of this document is to define and share a Metadata CoreScheme called STDLPMetadataCore. STDLPMetadataCore consists of a set of hierarchically structured metadata with variable granularity, mapped through metadata crosswalks with Dublin Core and other common international standards. The scheme is a flexible and extensible set of interoperable metadata, useful to support the research, the communication and the transmission of cultural and scientific content.

**Keywords:** Metadata, Metadata Standards, Metadata Crosswalks, Digital Library, Interoperability, Preservation, Dublin Core, Lifecycle Management.

## 1. Introduzione

Questo documento contiene informazioni sulle attività realizzate all'interno del progetto Science & Technology Digital Library. Obiettivo della Digital Library progettata "è lo sviluppo di un sistema integrato per l'accesso all'informazione sulla R&S, rivolto non solo alla comunità scientifica nazionale, ma anche ad una più vasta platea di utenza che costituisce il tessuto sociale e produttivo del Paese (istituzioni, imprese, società civile)"<sup>1</sup>. La mission di progetto e la struttura federata della Digital Library assegnano ai metadati una funzione strategica per l'interoperabilità semantica da e verso il Repository e per l'attivazione, gestione e sostenibilità dei servizi di *Trust Management and Preservation* degli oggetti digitali. Da qui l'esigenza di definire, all'interno del progetto, specifici modelli di metadati.

Generalmente definiti come "*data about data*", i metadati, supportano l'identificazione e la descrizione di documenti o di dati, consentendo accesso e reperibilità delle informazioni e configurandosi come elemento essenziale nei processi di estrazione di conoscenza. In particolare, la produzione di metadati risulta correlata con lo svolgimento di quelle attività che, nel tempo, sono connesse all'acquisizione, produzione, gestione, preservazione o uso delle informazioni. Tra le possibili tassonomie di metadati quella riportata di seguito rappresenta una delle più comuni ed accettate:

- **metadati descrittivi:** utilizzati per descrivere, identificare, recuperare una risorsa;
- **metadati strutturali:** utilizzati per indicare la struttura di oggetti composti;

---

<sup>1</sup> CNR, "Science and Technology Digital Library". Progetto esecutivo. Pag. 1.

•**metadati amministrativi:** utilizzati per fornire informazioni a supporto della gestione di una risorsa. Tra i metadati amministrativi si possono distinguere diversi insiemi quali ad es. Metadati gestione dei diritti , Metadati di conservazione , ecc.

Nel corso degli anni i metadati hanno assunto un ruolo sempre più rilevante all'interno dei progetti di digitalizzazione e delle attività di gestione degli archivi di oggetti digitali, tanto da arrivare a rappresentare parte integrante della definizione di Oggetto Digitale: "Something (e.g., an image, an audio recording, a text document) that has been digitally encoded and integrated with metadata to support discovery, use, and storage of those objects".<sup>2</sup>

---

<sup>2</sup> CDL Metadata 2001, p. 2.

## 2. Standard di Riferimento

AGRkMS = Australian RecordKeeping Metadata Standard (2008)

DCMI Metadata Terms = Dublin Core Metadata Initiative – Metadata Terms (2012)

CLD = Dublin Core Collections Application Profile - Dublin Core Collection Description Terms (2007)

CIDOC CRM = CIDOC Conceptual Reference Model version 5.1.2 (2013) ( già ISO 21127:2006 Information and documentation -- A reference ontology for the interchange of cultural heritage information)

LoC Metadata = Library of Congress Metadata for Digital Content – Master Data Element List (2012)

MODS = Metadata Object Description Schema – User Guidelines version 3 (2009)

CDL = California Digital Library – Descriptive Metadata Guidelines (2011)

CDL Guidelines for Digital Objects (2011)

MRKMS = Minnesota Recordkeeping Metadata Standard (2003)

AGLS = AGLS Metadata Standard (2011)

QRKMS = Queensland Recordkeeping Metadata Standard (2012)

SARKMS = South Australian Recordkeeping Metadata Standard (2012)

GC-RMMS = Government of Canada Records Management Metadata Standard (2006)

RIM-203 = Records Management Metadata Standard – Toronto (2008)

LIDO = Lightweight Information Describing Objects Version 1.0 (2010)

EDM = Europeana Data Model (2013)

LODE BD = Linked Open Data Enabled Bigliographical Data (2013)

OpenAire = Open Access Infrastructure for Research in Europe Guidelines (2012-2013)

ISO23081 = International Standard Organization 23081 - Metadata for records, (Part 1: 2006, Part 2:2008)

VoA3R = Virtual Open Access Agriculture & Aquaculture Repository. Specification of metadata profiles and mappings to existing technology (2012)

METS - PRIMER AND REFERENCE MANUAL Version 1.7 Revised (2010)

METSRights (2001)

PREMIS version 2.2 (2012)

VRA Core 4.0 (2009)

ISO26324:2012 (DOI),

ISO27729:2012 (ISNI),

ISO27730:2012 (ISCI),



ISO15511:2011 (ISIL),  
ISO24619:2011 (PISA),  
ISO/IEC9834-8:2008 (Generation and registration of Universally Unique Identifiers (UUIDs),  
ISO3297:2007 (ISSN),  
ISO108:2005 (ISBN),  
RFC3986:2005 - Uniform Resource Identifier (URI): Generic Syntax  
ISO2146:2010  
RDA = Resource Description and Access. Toolkit for RDA standard (2010)  
REICAT: le nuove regole di catalogazione italiana (2009)  
Linee guida per la creazione e la gestione di metadati nei repository istituzionali (CRUI, 2012)  
VQR (Valutazione della Qualità della Ricerca) MIUR Type (2012)  
ISO 214:1976: Documentation - Abstracts for publications and documentation  
ISAD (G) (1999)  
RAD = Rules for Archival Description, (last modified on 12 October 2012)  
ISO 19115-2:2009 -Geographic information -- Metadata -- Part 2: Extensions for imagery and gridded data.  
ISO - 3166-1:2013 - Codes for the representation of names of countries and their subdivisions— Part 1: Country  
ISO 3166-2: 2013- Codes for the representation of names of countries and their subdivisions— Part 2: Country  
MARC List for Geographic Areas.  
NF EN82045-2:2005 - Document management – Part 2 : Metadata elements and information reference model.

### 3. Scopo del documento

Scopo del presente documento è la definizione e la condivisione del modello di MetadatiCore, da qui in avanti definito come STDLPMetadatiCore (Science and Technology Digital Library MetadatiCore), realizzato all'interno del progetto Science & Technology Digital Library. Si tratta di un insieme di metadati interoperabili, con caratteristiche di flessibilità ed estensibilità, utile alla ricerca, alla comunicazione e alla trasmissione di contenuti culturali e scientifici.

## 4. Una presentazione del modello generale di Metadati del Progetto Science and Technology Digital Library

Prima di esaminare il modello di MetadatiCore, oggetto del presente documento, è opportuno illustrare brevemente il modello generale di metadati STDLPMetadatiModel (Science and Technology Digital Library MetadatiModel), di cui lo STDLPMetadatiCore rappresenta una parte.

La caratteristica fondamentale dei metadati è quella di consentire la gestione e la comprensione degli oggetti informativi assicurandone, nel tempo, l'autenticità, l'affidabilità, l'integrità e la possibilità di uso. Per raggiungere tali obiettivi i metadati necessitano di una adeguata gestione attraverso lo sviluppo di regole e modelli specifici. In particolare, il contesto digitale offre opportunità diversificate per la definizione e la creazione di schemi di metadati, accrescendo la possibilità di catturare conoscenza attraverso un accurato tracciamento di tutti i processi e le attività che generano metadati.

Nello specifico i processi di gestione dei metadati permettono :

- a. la tutela del valore probatorio dei documenti;
- b. la garanzia di accesso e possibilità di uso;
- c. la garanzia, nel tempo di autenticità, affidabilità ed integrità dei documenti;
- d. l'affidabilità della struttura per la tracciabilità e il mantenimento delle relazioni tra i documenti e il loro contesto di creazione;
- e. l'identificazione del contesto tecnologico in cui documenti digitali sono stati creati, catturati, gestiti, rappresentati e conservati;
- f. la semplificazione delle procedure di migrazione dei documenti da un ambiente tecnologico ad un altro;
- g. la tutela e la gestione della privacy e dei diritti;
- h. il recupero delle informazione e la gestione dei contenuti;
- i. le strategie di sostenibilità e di interoperabilità con altri ambienti tecnologici.

In ragione di tali elementi, il progetto Science and Technology Digital Library, intende adottare un modello di Metadati orientato al controllo del ciclo di vita dell'oggetto informativo. Da un punto di vista concettuale il modello si basa sulla definizione di specifiche entità costruite in una logica di relazione interna (a ciascuna di esse) ed esterna (delle une con le altre). Tali relazioni si esplicitano attraverso una serie di elementi, adeguatamente strutturati e collocati nello schema di riferimento. All'interno del modello rappresentato, le relazioni tra entità costituiscono un aspetto fondamentale per il management consapevole degli oggetti informativi rendendo evidenti i livelli di aggregazione tra entità e consentendo la rappresentazione degli oggetti informativi aggregati alle informazioni di contesto e a quelle relative al ciclo di vita. Nel modello, considerata la loro potenzialità informativa intrinseca, le relazioni si configurano come una vera e propria classe di metadati.



Figura 1. Entità e relazioni

La figura 1 illustra le quattro classi di Entità che caratterizzano STDLP Metadata Model:

1. **Information Object**, singoli documenti, immagini, audio, video, collezioni, software, ecc.;
2. **Agent**, persone, utenti, organizzazioni, ecc.;
3. **Event**, eventi, acquisizione, selezione, conservazione, tutela, valorizzazione, valutazione, ecc.
4. **Mandate**, regole che governano tutte le entità, leggi, regolamenti, policy, ecc..

Le entità individuate sono rappresentate nel modello attraverso quattro classi o gruppi di metadati:

1. **IDENTITY**: il gruppo di metadati IDENTITY è composto da elementi che identificano le Entità;
2. **DESCRIPTION**: il gruppo di metadati DESCRIPTION è composto dagli elementi utili a definire le Entità;
3. **USE**: il gruppo USE contiene gli elementi utili a consentire l'uso nel tempo delle entità.
4. **RELATION**: il gruppo RELATION contiene gli elementi per descrivere o tracciare le relazioni interne o esterne di ciascuna Entità.

Uno degli obiettivi primari del modello elaborato è quello di realizzare, attraverso una convergenza tra i principali standard di metadati per gli oggetti informativi, uno schema unico di riferimento<sup>3</sup> utile alla descrizione delle risorse informative e capace, al tempo stesso, di supportare la gestione del loro ciclo di vita, attraverso il tracciamento dei processi e dei flussi connessi. Il risultato finale del lavoro è un modello integrato di Metadati (STDLPMetadataModel) composto da due differenti schemi (STDLPMetadataCore e STDLPMetadata) caratterizzati da elementi comuni e da specificità peculiari definite anche in conformità dei ruoli assunti nella Digital Library:

1. **STDLPMetadataCore:** insieme di metadati fondamentali per i processi di harvesting e ingestion, focalizzato sull'interoperabilità da e verso la Digital Library.
2. **STDLPMetadata:** insieme di metadati per la gestione e la preservazione degli oggetti informativi della Digital Library.

Tra le proprietà fondamentali del modello di metadati si evidenziano la modularità e la capacità di estensione basate su una robusta struttura organizzativa che permette di inserire elementi di dettaglio o costruire altre relazioni senza compromettere gli elementi critici di integrità informativa.

---

<sup>3</sup> Nel dominio dei metadati per la gestione di risorse digitali si assiste ad una frammentazione e proliferazione di norme tecniche, colpevole di molta confusione. "Numerous standards already exist concerning metadata and more broadly mechanisms for locating information and documents within systems. ISO 15836 on so called Dublin Core metadata or the exchange of information, as well as Z39.50 and ISO 23950, cannot be ignored. The question is whether records management require specific metadata in other words, a set of metadata without which the ISO 30300 series of standards and the associated technical standards, particularly ISO 23081 and ISO 15489, could not be implemented reliably, securely and over the long term". ISO 30300 - 30301: Metadata for records, guiding principles, conceptual overview and Modalities June 2013 Livre Blanc 4, ISO 30300 – 30301: Metadata for records, guiding principles, conceptual overview and modalities, June 2013.

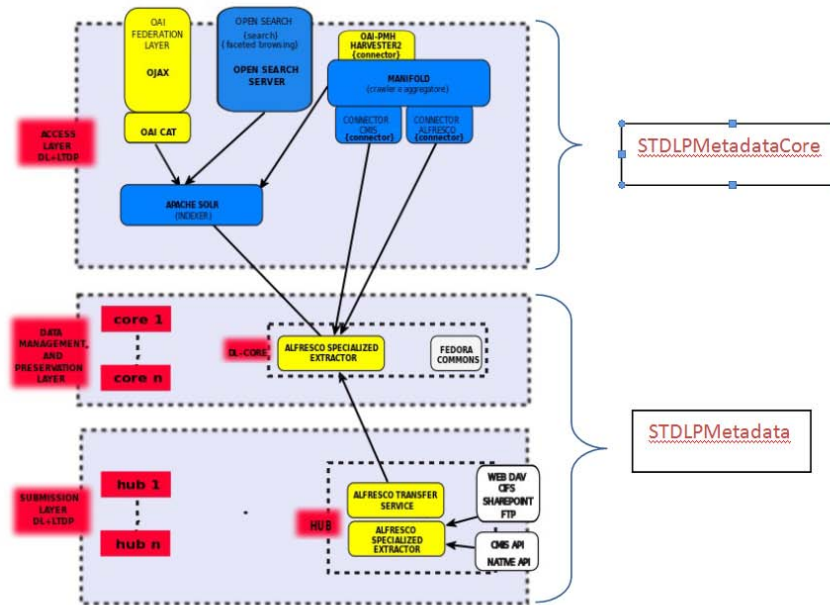


Figura 2 Ruolo del Modello di metadati nella struttura tecnologica.

## 5. I metadati Core del modello di Metadati del Progetto Science and Technology Digital Library

STDLPMetadataCore rappresenta l'insieme minimo di metadati del STDLPMetadataModel. La struttura federata della Digital library, oggetto del progetto, richiede un livello di interoperabilità assai ampio, pertanto, si è reso necessario apportare alcune modifiche al modello generale di metadati basato sulle entità e sulle relazioni attraverso la semplificazione degli elementi e la rivisitazione concettuale delle relazioni tra entità. Il lavoro svolto ha perseguito diversi obiettivi:

- definire un modello di metadati per la descrizione degli oggetti informativi condiviso all'interno della federazione;
- agevolare l'interoperabilità di collezioni, o altri oggetti informativi eventualmente descritti utilizzando schemi di metadati differenti;
- mappare i metadati dei Provider federati verso il Repository della Digital Library al fine di consentire le attività di trust management and preservation;
- consentire l'harvesting di metadati dalla STDL verso altre reti o infrastrutture per l'accesso aperto o per la valorizzazione dei contenuti culturali (es. Europeana, OpenAIRE).

STDLPMetadataCore si compone di un insieme di metadati gerarchicamente strutturati a granularità variabile, con un numero elevato di elementi (al momento ne comprende 40). Il numero elevato degli elementi riduce le possibilità di effetto *dumbing down*, offre maggiori garanzie per il trust management and preservation, ma espone ad una minore interoperabilità dovuta alla mancata corrispondenza di elementi tra schemi diversi. Per ovviare a questo secondo problema è stata realizzata un'accurata attività di metadata crosswalks. Si tratta di una mappatura a livello sintattico e semantico degli elementi da uno schema di metadati ad un altro che permette ai metadati creati da una comunità di essere utilizzati da un altro gruppo che si avvale di un modello di metadati diverso. Il grado di successo del metadata crosswalks dipende dalla somiglianza dei due regimi, dalla granularità degli elementi presenti nello schema di destinazione rispetto a quello sorgente, ma anche dalla compatibilità delle regole sui contenuti che popolano gli elementi di ogni schema. Nel STDLPMetadataCore il metadata crosswalks è stato pensato come strumento utile a consentire sia la cattura del maggior numero di metadati possibili nella fase di harvesting sia la mappatura verso STDLPMetadata e la successiva gestione dei contenuti catturati nella STDLP.

La Tabella STDLPMetadataCoreElement offre un riepilogo di tutti MetadataCoreElements presentati secondo un ordine che va dal generale al particolare. Per ogni elemento viene fornita la descrizione e la corrispondente mappatura con DublinCore – dcterms. Le tabelle successive mostrano in dettaglio ogni elemento definito dalle classi o gruppi di metadati fino ai sottoelementi che rappresentano il livello a maggiore granularità. Anche in questo caso per, ciascun metadato, sono state definite le crosswalks non solo con il Dcterms ma anche con gli altri principali standard per la metadattazione di oggetti informativi quali Mods, EAD, VRA Core 4.0, PREMIS, METS, AGRKMS, SARKMS, QRKMS, RIM-203, MRKMS, ISAD(G), AGLS, MARC, DACS, LODE-BD, LIDO, i principali standard di metadati per documenti della famiglia ISO, ecc.

## STDLPMetadataCoreElement

N.	ELEMENT	DESCRIPTION	DCTERMS CROSSWALKS
1	<b><u>IDENTITY</u></b>	The identity metadata group identifies the entity. Examples of the metadata elements that appear in this category are entity type, aggregation and registration identifier. (ISO23081-2:2009)	
1.1	Identifier	An unambiguous reference to the resource within a given context. (DCMI Metadata Terms).	<dcterms:identifier>
1.1.1	IDValue	The IDValue is a character string that identifies the entity within a local or global domain, (AGRKMS)	<dcterms:identifier>
1.1.2	IDScheme	The IDScheme is used to identify the entity (AGRKMS)	<dcterms:identifier>
1.1.3	DescriptionLevel/AggregationLevel	The level at which the record(s) is/are being described and controlled. The level of aggregation of the unit of description (MRKMS). The resource's level or position in a hierarchy i.e. Record level and File level (RIM-203).	<dcterms:identifier>
2	<b><u>DESCRIPTION</u></b>	The description metadata group contains elements required to determine that this is the entity that is required for use. Examples of metadata elements that appear in this category include: title, abstract and external identifiers. (ISO23081-2:2009)	
2.1	<b>Title/Name</b>	A name given to the Resource [or to any other Entity]. (DCMI Metadata Terms).	<dcterms:title>
2.1.1	Subtitle	A word, phrase, character, or group of characters that contains the remainder of the title information after the title proper. (MODS).	<dcterms:title>
2.1.2	TranslatedTitle	Translation or transcription of the main Title. (MODS).	<dcterms:title>
2.1.3	AbbreviatedTitle	Title as abbreviated for indexing or identification.(MODS).	<dcterms:title>



N.	ELEMENT	DESCRIPTION	DCTERMS CROSSWALKS
2.1.4	Alternative Title:	An alternative name for the resource. (DCMI Metadata Terms )	<dcterms:title>
2.2	<b>Type</b>	The nature or genre of the resource. (DCMI Metadata Terms )	<dcterms:type>;
2.2.1	ItemType	The nature or genre of the content of one or more items within the collection. (Dublin Core Collection Description Terms).	<dcterms:type>; <dcld:itemType>
2.3	<b>Creator</b>	An entity primarily responsible for making the resource (DCMI Metadata Terms).	<dcterms:creator>
2.4	<b>Description</b>	An account of the resource. (DCMI Metadata Terms )	<dcterms:description>
2.4.1	Subject:	The topic of the resource. Typically, the subject will be represented using keywords key phrases, or Classification Codes. (DCMI Metadata Terms )	<dcterms:subject>
2.4.2	Abstract:	An account of the resource. (DCMI Metadata Terms )	<dcterms:abstract>
2.4.3	Table of Contents:	A list of subunits of the resource. (DCMI Metadata Terms )	<dcterms:tableOfContents>
2.4.4	Bibliographic Citation:	A bibliographic reference for the resource. (DCMI Metadata Terms )	<dcterms:bibliographicCitation>
2.5	<b>Coverage.</b>	The Spatial or Temporal topic of the resource, the spatial applicability of the resource, or the jurisdiction under which the resource is relevant. (DCMI Metadata Terms )	<dcterms:coverage>
2.6	<b>Location.</b>	A spatial region or named place. (DCMI Metadata Terms )	<dcterms:location>
2.7	<b>Date</b>	A point or period of time associated with an event in the lifecycle of the resource. (DCMI Metadata Terms )	<dcterms:date>
2.7.1	DateRange	Start and end dates and times associated with an entity. (AGRkMS definition).	<dcterms:date>
2.8	<b>Extent</b>	The size or duration of the resource. (DCMI Metadata Terms).	<dcterms:extent>

N.	ELEMENT	DESCRIPTION	DCTERMS CROSSWALKS
2.9	<b>Accrual</b>	The method by which items are added to a collection. (DCMI Metadata Terms).	<dcterms:accrualMethod>
2.9.1	AccrualPeriodicity	The frequency with which items are added to a collection. (DCMI Metadata Terms).	<dcterms:accrualPeriodicity>
2.9.2	AccrualPolicy	The policy governing the addition of items to a collection. (DCMI Metadata Terms).	<dcterms:accrualPolicy>
2.10	<b>Language</b>	A language of the resource. (DCMI Metadata Terms )	<dcterms:language>
2.11	<b>Note</b>	General textual information relating to a resource. (LoC Metadata).	<dcterms:description>
3	<b>USE</b>	The use metadata group contains information that facilitates long-term use of the entity. Examples of metadata elements that appear in this category include: technical environment, access, rights and language. (ISO23081-2:2009).	
3.1	<b>Rights</b>	Rights: Information about rights held in and over the resource. (DCMI Metadata Terms )	<dcterms:rights>
3.1.1.	RightsDescription	Additional information about the rights of the object (PREMIS). A description of the way in which access to or use of records is governed or restricted. (AGRkMS)	<dcterms:rights>
3.1.2	RightsType	Specification of the type of rights being described. E.g archival access, authorized public access, copyright, disclaimer, embargo, FOI, intellectual property, privacy, use permission, etc. (AGRkMS)	<dcterms:license>
3.1.3	RightsStatus	Information about whether a record may be released or published, or whether it is to be wholly or partially withheld from public access. (AGRkMS)	<dcterms:rights>
3.1.4	RightsDate	The date range during which the particular rights applies or applied to the content (PREMIS). The date on which a right is or was current (LIDO)	<dcterms:dateCopyrighted>
3.1.5	RightsHolder	A person or organization owning or managing rights over the resource. (DCMI Metadata Terms ).	<dcterms:rightsHolder>

N.	ELEMENT	DESCRIPTION	DCTERMS CROSSWALKS
3.2.	<b>AccessRight</b>	Information about who can access the resource or an indication of its security status (DCMI Metadata Terms).	<dcterms:accessRights>
3.2.1	SecurityClassification	Security classification describes the sensitivity of a record and outlines the consequences of unauthorised release (QRKMS)	<dcterms:accessRights>
3.2.2	Caveat	Caveat limits access to certain records to those authorised to access them. It is used in conjunction with security classification to prevent everyone with, for example, 'in-confidence' clearance from accessing all 'in-confidence' documents (QRKMS).	<dcterms:accessRights>
3.2.3	UseConditions	Use condition should describe the conditions under which a record becomes available for access (QRKMS).	<dcterms:accessRights>
3.2.4	AccessStatement	Access statement should describe why a particular access regime (i.e. security classification, caveat or use condition) was imposed, or is used to document penalties which apply to unauthorised/inappropriate use (QRKMS).	<dcterms:accessRights>
3.2.5	DeterminationDate	Determination date can document the date/s on which a particular access regime was imposed (QRKMS).	<dcterms:date>
3.2.6	ReviewDueDate	Review due date documents the date on which a review of an access determination should take place. It could also be used to flag automatic security declassification after a set period (QRKMS).	<dcterms:date>
3.2.7	Permissions	Permission describes a set of uses to which a digital object can be put as defined by the rights holder in a given context (METSRights). Permissions identify an agent's ability to undertake certain recordkeeping actions on a record or an aggregation of records or to specify the type of permission assigned to a business function or activity (SARKMS).	<dcterms:accessRights>

N.	ELEMENT	DESCRIPTION	DCTERMS CROSSWALKS
3.3	<b>Provenance</b>	A statement of any changes in ownership and custody of the resource since its creation that are significant for its authenticity, integrity, and interpretation (DCMI Metadata Terms).	<dcterms:provenance>
3.4	<b>InstructionalMethod</b>	A process, used to engender knowledge, attitudes and skills, that the described resource is designed to support. (DCMI Metadata Terms)	<dcterms:instructionalMethod>
3.5	<b>Owner</b>	The person or organization that currently owns an item or collection. An entity who has legal possession of the collection (Dublin Core Collection Description Terms).	<dcterms:rightsHolder>,<dcl:owner>
3.6	<b>Audience</b>	A class of entity for whom the resource is intended or useful (DCMI Metadata Terms).	<dcterms:audience>,<dcterms:EducationalLevel>,<dcterms:mediator>
3.7	<b>Format</b>	The file format, physical medium, or dimensions of the resource (DCMI Metadata Terms).	<dcterms:format>
3.7.1	Medium	The material or physical carrier of the resource (DCMI Metadata Terms).	
3.7.2	Software	Software required to render or use the object (software). Information about the application that created the object (creating application - PREMIS).	
3.7.3	Integrity Check	Information used to verify whether an object has been altered in an undocumented or unauthorized way (PREMIS fixity).	
3.7.4	Signature	Information needed to use a digital signature to authenticate the signer of an object and/or the information contained in the object (PREMIS).	
3.7.5	Encryption	Features of the object intended to inhibit access, use, or migration (PREMIS). Information, or pointers to information, about how a record is systematically scrambled (GC-RMMS).	
4	<b><u>RELATION</u></b>	The relation metadata group points to a relationship entity or describes the relationships between this entity and other entities. (ISO23081-2:2009).	

N.	ELEMENT	DESCRIPTION	DCTERMS CROSSWALKS
4.1	<b>RelatedEntityID</b>	A related resource. (DCMI Metadata Terms) - A unique identifier for the related entity or information resource (MRKMS). A link to the identity of the related entity, for the purpose of precisely identifying the related objects. (ISO23081-2:2009)	<dcterms:relation>, <dcterms:identifier>
4.2	<b>RelationType</b>	Relation Type: Indicates the nature of the relationship (QRKMS). A category of relationship between Entities, at the same or different levels of aggregation, or between digital objects and other digital objects (MRKMS). Express the nature of the relationship and the role of the specific linked entities in the relationship in an unambiguous way. for example, contains, controls, precedes (ISO 23081-2:2009).	<dcterms:ConformsTo>, <dcterms:isVersionOf>, <dcterms:HasVersion>, <dcterms:isFormatOf>, <dcterms:hasFormat>, <dcterms:isReplacedBy>, <dcterms:replaces>, <dcterms:isPartOf>, <dcterms:hasPart>, <dcterms:requires>, <dcterms:isRequiredBy>, <dcterms:isReferencedBy>, <dcterms:references>, <dcterms:source>.
4.3	<b>RelationshipDescription</b>	Information about the relationship not explicit or obvious in Relation Type. Further explanatory notes or details about the relationship. It provides additional contextual information about the relationship. It might be necessary to explain the reasoning behind why a particular relationship between particular records/resources was defined.(MRKMS)	<dcterms:description>
4.4	<b>RelationshipDate</b>	Is the date the relationship was created (QRKMS). It can be system assigned at the time a relationship is established (SARKMS). The commencement and, if relevant, the end date of the relationship instance (ISO 23081-2:2009).	<dcterms:date>

1. IDENTITY Metadata_Group				
Group of metadata	Element/Description	Sub Element /Description	Obligation	Applied to Entity
<b>IDENTITY</b>	<b>Identifier:</b> An unambiguous reference to the resource within a given context. (DCMI Metadata Terms ).	IDValue IDScheme DescriptionLevel/AggregationLevel	M	All

1.1 Identifier				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
Identifier: <b>this element identify the entity within a specific domain, local, global or both if appropriate. In some cases the identifier will be assigned by the system (AGRKMS).</b>	M	<dcterms:identifier>, <mods:identifier>, <mets:id>, <mets:objid>, <premis:IdentifierValue>, <b>RIM-203</b> <identifier>, <b>QRKMS</b> <recordIdentifier>, <agentIdentifier>, <b>MRKMS</b> <entityID>, <PersonID>, <RecordIdentifier> <b>VRA Core 4.0</b> <WorkId>, <CollectionId>, <ImageId>		All

1.1.1 IDValue				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
IDValue: The IDValue is a character string that identifies the entity within a local or global domain, such as "R135572007"; "771-33961"; "doi:10.10,1038/nphys1170", etc. (identifier string, AGRKMS)	M	<dcterms:identifier>, <mods:identifier>, <b>METS</b> <mets:id>,<mets:objid>, <b>PREMIS</b> <premis:IdentifierValue>, <b>AGRKMS</b> <identifierString>, <b>RIM-203</b> <identifier>, <b>SARKMS</b> <identifierString>, <b>QRKMS</b> <recordIdentifier>,<agentIdentifier>, <b>MRKMS</b> <entityID>, <PersonID>, <RecordIdentifier>, <b>VRA Core 4.0</b> <WorkId>, <CollectionId>, <ImageId>		All

1.1. 2. IDScheme				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
IDScheme : The IDScheme is used to identify the entity. E.g. DOI, ISBN, Handle, URI, etc. (identifier scheme, AGRKMS)	C	<dcterms:identifier>; <b>PREMIS</b> <IdentifierType>, ISO26324:2012 (DOI), ISO27729:2012 (ISNI), ISO27730:2012 (ISCI), ISO15511:2011 (ISIL), ISO24619:2011 (PISA), ISO/IEC9834-8:2008 (Generation and registration of Universally Unique Identifiers (UUIDs), ISO3297:2007 (ISSN), ISO108:2005 (ISBN), RFC3986:2005 (URI), <b>AGRKMS</b> <identifierScheme>, <b>SARKMS</b> <identifierScheme>,		All



1.1.3. DescriptionLevel/AggregationLevel				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
DescriptionLevel/AggregationLevel: The level at which the record(s) is/are being described and controlled. The level of aggregation of the unit of description (MRKMS). The resource's level or position in a hierarchy i.e. Record level and File level (RIM-203).	M	<dcterms:identifier> <b>RIM-203</b> <aggregation>, <b>GC-RMMS</b> <aggregation>, <b>MRKMS</b> <aggregationLevel>, <b>QRKMS</b> <recordTypeCategory>, QRKMS record category type scheme, <b>ISO23081-2:2009</b> <aggregation>, <b>ISAD(G)</b> <LivelloDiDescrizione>, <b>AGRKMS</b> <Category> AGRKMS Category Type Schemes (adapted from ISO 23081-2:2009)		All

<b>2.DESCRPTION Metadata_Group</b>				
<b>Group of metadata</b>	<b>Element/Description</b>	<b>Sub Element</b>	<b>Obligation</b>	<b>Applied to Entity</b>
DESCRIPTION: The description metadata group contains elements required to determine that this is the entity that is required for use. Examples of metadata elements that appear in this category include: title, abstract and external identifiers. (ISO23081-2:2009).	<b>Title/Name: A name given to the Resource [and to any other Entity] (DCMI Metadata Terms)</b>	Subtitle, AlternativeTitle, TranslatedTitle, AbbreviatedTitle, AlternativeTitle.	M	All
	<b>Type: The nature or genre of the resource. (DCMI Metadata Terms definition).</b>	ItemType	M/R	All
	<b>Creator: An entity primarily responsible for making the resource (DCMI Metadata Terms)</b>		M	Digital Object
	<b>Description: An account of the resource. (DCMI Metadata Terms definition).</b>	Subject, Abstract, TableOfContents, BibliographicCitation	M	All
	<b>Coverage: The Spatial or Temporal topic of the resource, the spatial applicability of the resource, or the jurisdiction under which the resource is relevant (DCMI Metadata Terms definition).</b>		M	All

<b>2.DESCRPTION Metadata_Group</b>				
<b>Group of metadata</b>	<b>Element/Description</b>	<b>Sub Element</b>	<b>Obligation</b>	<b>Applied to Entity</b>
	<b>Location: A spatial region or named place. (DCMI Metadata Terms definition).</b>		M	All
	<b>Date: A point or period of time associated with an event in the lifecycle of the resource. ("DCMI Metadata Terms" definition).</b>	TimeAppellation, DATEValue, DateRange	M	All
	<b>Exetent: The size or duration of the resource. (DCMI Metadata Terms definition).</b>		M	Digital Object
	<b>AccrualMethod: The method by which items are added to a collection. ("DCMI Metadata Terms" definition).</b>	Accrual Periodicity, Accrual Policy	O	All
	<b>Language: A language of the resource. ("DCMI Metadata Terms" definition).</b>		M	All
	<b>Note: General textual information relating to a resource. (LoC Metadata definition).</b>		O	All

2.1. Title				
Description	Obligation	Reference Standard Crosswalks	Other References	Applied to Entity
<p>Title/Name: A name given to the resource. ((DCMI Metadata Terms). The original file name of the object when it was submitted to or harvested by the repositior].The name used within the preservation repository may not be known outside of the repository. A depositor might need to request a file by its original name. Also, the repository may need to reconstruct internal links for dissemination. A text string which could be used in addition to agentIdentifier to identify an agent. This semantic unit provides a more reader-friendly version of the agent identified by the agentIdentifier. The individual or organization responsible for the creation of the digital file] (PREMIS).</p>	M	<p>DC TERMS &lt;dcterms:title&gt;, DC SIMPLE &lt;dc:title&gt;,  MODS: &lt;mods:titleInfo&gt; &lt;mods:title&gt;,  VRA 4.0 Core: &lt;vra: title&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;, &lt;vra: title type= &gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;, &lt;vra: title pref= &gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;.  PREMIS 1.6 originalName 3.2 agentName  ISO2146:2010 &lt;NameRole&gt;  CIDOC Conceptual Reference Model (CIDOC CRM, ISO 21127:2006)  RDA (Resource Description and Access) Standard</p>	<p>LoC Metadata Scheme, CDL Guidelines for Digital Objects, REICAT: le nuove regole di catalogazione italiana, LODE-BD</p>	All

<b>2.1.1. Subtitle</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard(s). Crosswalks</b>	<b>Other references</b>	<b>Applied to Entity</b>
Subtitle: A word, phrase, character, or group of characters that contains the remainder of the title information after the title proper ("MODS" definition). The remainder of the title information after the main title ("LoC Metadata" definition).	O	DC Terms: <dcterms:title>  MODS: <mods:titleInfo> <mods:title> <mods:subtitle>	LoC Metadata Scheme  CDL Guidelines for Digital Objects	All

<b>2.1.2. TranslatedTitle</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard(s). Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Translated Title: Translation or transcription of the main Title ("MODS" definition). The Title in another language ("LoC Metadata" definition).	O	DC Terms: <dcterms:title> MODS example: <titleInfo xml:lang="fr" type="translated">	LoC Metadata Scheme	All

<b>2.1.3. AbbreviatedTitle</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard(s). Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Abbreviated Title: Title as abbreviated for indexing or identification ("MODS" definition). A short form of the Title ("LoC Metadata" definition)	O	DC Terms: <dcterms:title>  MODS example: <titleInfo type="abbreviated" authority="dnlm">	LoC Metadata Scheme	All

2.1.4. AlternativeTitle				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Alternative Title: An alternative name for the resource (<u>"DC Terms" definition</u>).</p> <p>Varying form of the title if it contributes to the further identification of the item (<u>"MODS" definition</u>).</p> <p>A variant form of the title (<u>"LoC Metadata" definition</u>)</p>	O	<p><b>DC Terms:</b> &lt;dcterms:title&gt;; &lt;dcterms:alternative&gt;</p> <p><b>MODS example:</b> &lt;titleInfo type="alternative" displayLabel="also known as"&gt;</p> <p><b>VRA 4.0 Core:</b> &lt;vra: title type=&gt; in &lt;vra: image&gt;</p>	<p>LoC Metadata Scheme</p> <p>LODE-BD</p>	All

2.2. Type				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Type: The nature or genre of the resource <i>(“DC Terms” definition).</i></p> <p>A term that specifies the characteristics and general type of content of the resource <i>(“MODS” definition).</i></p> <p>The characteristics and general type of content of the resource: text, cartographic, notated music, sound recording-musical, sound recording-nonmusical, sound recording, still image, moving image, three dimensional object, software, multimedia, mixed material <i>(“LoC Metadata” definition).</i></p> <p>A high-level type data value that generally characterizes the resource represented by the digital object. This high-level data value may also be repeated, or more specific genre data values may also be encoded as part of the descriptive metadata <i>(“CDL Guidelines for Digital Objects” definition)</i></p> <p>TYPE (string/O):</p> <p>Is a class name for the object, e.g., books, journal, stereograph, dataset, video, mp3, etc. <i>(METS)</i></p> <p>The category of object to which the metadata applies. Preservation repositories are likely to treat different categories of objects (representations, files, and bitstreams) differently in terms of metadata and data management functions. <i>(PREMIS)</i></p>	O	<p><b>DC Simple</b> &lt;dc:type&gt;</p> <p><b>DC Terms:</b> &lt;dcterms:type&gt;</p> <p><b>MODS:</b> &lt;typeOfResource&gt;, &lt;mods:genre authority=""&gt;</p> <p><b>VRA 4.0 Core:</b> &lt;vra: work&gt; (Catalog Level), &lt;vra: worktype&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt; , (Object/Work Type)</p> <p><b>DC Collections Application Profile:</b> &lt;cld:itemType&gt;</p> <p><b>METS:</b> &lt;mets:mets TYPE=""&gt;</p> <p><b>PREMIS:</b> 1.2 objectCategory (M, NR)</p>	<p>LoC Metadata Scheme</p> <p>CDL Guidelines for Digital Objects Scheme</p> <p>DCMI Type</p> <p>Linee guida per la creazione e la gestione di metadati nei repository istituzionali (CRUI, 2012)</p> <p>VQR (Valutazione della Qualità della Ricerca) MIUR Type (2012)</p>	All

<b>2.2. 1. Item Type</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard(s). Crosswalks</b>	<b>Other references</b>	<b>Applied to Entity</b>
ItemType: The nature or genre of the content of one or more items within the collection. (Dublin Core Collection Description Terms)	O	DC Terms:<dcterms:type> DC Collections Application Profile: <cd:itemType>	DCMI Type	All

<b>2.3. Creator</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
An entity primarily responsible for making the resource ((DCMI Metadata Terms).	M	DUBLIN CORE TERMS (dcterms:creator), METS( Agent Id, Agent name, Agent Role), MODS (RecordContentSource), PREMIS (agentIdentifier, agentName, agentNote), AGRKMS (idString,nameWords), QRKMS (RecordCreator), RIM-203 (Creator), SARKMS (name),	Library of Congress Name Authority File (LCNAF), Union List of Artists' Names (ULAN), Library of Congress' Term, Name, and Title Sources Code List, MARC Relator Codes	All



2.4. Description				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Description: An account of the resource (DC Terms).</p> <p>Summary or Abstract of the content of the resource.</p> <p>A listing of the contents of a resource . (“LoC Metadata” definition).</p> <p>A brief free-text note, abstract, table of contents listing, or descriptive statement that characterizes more fully than the title does the scope or content of the resource. (“CDL Guidelines for Digital Objects” definition)</p> <p>A container for PREMIS defined and externally defined digital signature information, used to authenticate the signer of an object and/or the information contained in the object. A repository may have a policy of generating digital signatures for files on ingest, or may have a need to store and later validate incoming digital signatures. (PREMIS)</p>	M	<p>DC Simple &lt;dc:description&gt;</p> <p>DC Terms: &lt;dcterms:description&gt;</p>	<p>LoC Metadata Scheme</p> <p>CDL Guidelines for Digital Objects</p> <p>LODE-BD</p>	All

2.4.1. Subject				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Subject: The topic of the resource.</p> <p>Typically, the subject will be represented using keywords, key phrases, or classification codes.</p> <p>Recommended best practice is to use a controlled vocabulary. ("DC Terms" definition).</p> <p>Subject information:</p> <p>Classification =</p> <p>A designation applied to a resource that indicates the subject by applying a formal system of coding and organizing resources according to subject areas.</p> <p>Topic = Terms indicating the subject of the resource. Subject string beginning with a topic.</p> <p>Geographic = Name of a place that is the subject of the resource. Subject string beginning with a geographic.</p> <p>Temporal = Chronological subject terms or time period covered. Subject string beginning with a temporal.</p> <p>Name = A person or organization that is the subject of the resource. Subject string beginning with name.</p> <p>Title = A title or work that is the subject of a resource. Subject string beginning with a title. ("LoC Metadata" definition).</p> <p>Significant names (personal, corporate, family, meeting, etc.) represented in or by the resource. ("CDL Guidelines for Digital Objects" definition)</p>	M	<p>DC Simple: &lt;dc:subject&gt;</p> <p>DC Terms: &lt;dcterms:subject&gt;</p> <p><b>MODS:</b></p> <p>&lt;mods:subject authority=""&gt;</p> <p>&lt;mods:name type="personal   corporate   conference" authority=""&gt;</p> <p>&lt;mods:namePart&gt;</p> <p>&lt;mods:subject authority=""&gt;</p> <p>&lt;mods:titleInfo authority=""&gt;</p> <p>&lt;mods:title&gt;</p> <p>&lt;mods:subject authority=""&gt;</p> <p>&lt;mods:topic&gt;</p> <p>&lt;mods:subject authority=""&gt;</p> <p>&lt;mods:occupation&gt;</p> <p>&lt;mods:classification&gt;</p> <p><b>VRA 4.0 Core:</b></p> <p>&lt;vra: subject&gt;&lt;term&gt; in &lt;vra: work&gt;&lt;vra: collection&gt; or &lt;vra: image&gt;</p> <p>Other eg.</p> <p>&lt;vra: subject&gt;&lt;term type=&gt; in &lt;vra: work&gt;&lt;vra: collection&gt; or &lt;vra: image&gt;;</p> <p>&lt;vra: subject&gt;&lt;term extent=&gt; in &lt;vra: work&gt;&lt;vra: collection&gt; or &lt;vra: image&gt;;</p> <p>&lt;vra: subject&gt;&lt;display&gt; in &lt;vra: image&gt;;</p> <p>&lt;vra: subject&gt;&lt;term&gt; in &lt;vra: image&gt;;</p> <p>&lt;vra: subject&gt;&lt;term&gt;</p> <p>&lt;vra: subject&gt;&lt;term pref=&gt;;</p> <p>&lt;vra:subject&gt;&lt;term xml:lang=&gt;;</p> <p>&lt;vra:subject&gt;&lt;term source=&gt;;</p> <p>&lt;vra: subject&gt;&lt;notes&gt;</p> <p>&lt;vra: subject&gt;&lt;notes source=&gt;;</p>	<p>LoC Metadata Scheme</p> <p>CDL Guidelines for Digital Objects</p> <p>LODE-BD</p> <p>Thesaurus [Soggettario]</p> <p>Classification Scheme</p>	All

2.4.2. Abstract				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Abstract: An account of the resource. (<i>"DC Terms" definition</i>).</p> <p>Summary or Abstract of the content of the resource.</p> <p>A listing of the contents of a resource. (<i>"LoC Metadata" definition</i>).</p> <p>A brief free-text note, abstract, table of contents listing, or descriptive statement that characterizes more fully than the title does the scope or content of the resource. (<i>"CDL Guidelines for Digital Objects" definition</i>)</p>	M	<p><b>DC Terms:</b> &lt;dcterms:abstract&gt;</p> <p><b>MODS:</b> &lt;mods:abstract&gt;</p> <p><b>ISO 214:1976:</b> Documentation - Abstracts for publications and documentation</p> <p><b>VRA 4.0 Core:</b> &lt;vra: subject&gt;&lt;display&gt; in &lt;vra: work&gt;&lt;vra: collection&gt; or &lt;vra: image&gt;; &lt;vra: title type=&gt; in &lt;vra: image&gt;</p>	CDL Guidelines for Digital Objects	All

2.4.3. TableOfContents				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Table Of Contents: A list of sub-units of the resource. ("DC Terms" definition).</p> <p>An attribute used, for example, to identify a &lt;div&gt; to an end user viewing the document. Thus a hierarchical arrangement of the &lt;div&gt; LABEL values could provide a table of contents to the digital content represented by a METS document and facilitate the users' navigation of the digital object. Note that a &lt;div&gt; LABEL should be specific to its level in the structural map. In the case of a book with chapters, the book &lt;div&gt; LABEL should have the book title and the chapter &lt;div&gt; LABELS should have the individual chapters. For further clarification of the distinction between LABEL and ORDERLABEL see the description of the ORDERLABEL attribute below.</p> <p>METS</p>	O	<p><b>DC Terms:</b> &lt;dcterms:tableOfContents&gt;</p> <p><b>MODS:</b> &lt;mods:tableOfContents&gt;</p> <p><b>VRA 4.0 Core:</b> &lt;vra: title type=&gt; in &lt;vra: image&gt;</p> <p><b>METS: LABEL (string/O):</b> &lt;mets:div TYPE="page" LABEL="Page v: Table of contents"/&gt;</p>		All

2.4.4. BibliographicCitation				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Bibliographic Citation: A bibliographic reference for the resource. It may only be used describing bibliographic resources. Recommended practice is to include sufficient bibliographic detail to identify the resource as unambiguously as possible. ("DCMI Metadata Terms" definition).	O	<b>DC Terms:</b> <dcterms:bibliographicCitation> <b>VRA 4.0 Core:</b> <vra: description> in <vra: work>, or <vra: collection> <b>ISAD:</b> Biographic History	<b>RAD<sup>4</sup>:</b> Administrative history/biographical sketch	All

2.5. Coverage				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Coverage: The spatial or temporal topic of the resource, the spatial applicability of the resource, or the Jurisdiction under which the resource is relevant. SPATIAL TOPIC and spatial applicability may be a named PLACE or a LOCATION specified by its geographic coordinates. Temporal topic may be a named PERIOD, DATE, or DATE range. A JURISDICTION may be a named ADMINISTRATIVE ENTITY or a GEOGRAPHIC PLACE to which the resource applies. Recommended Best Practice is to use a controlled vocabulary such as the Thesaurus of Geographic Names [TGN]. Where appropriate, named places or time periods can be used in preference to numeric identifiers such as sets of coordinates or date ranges. ("DC Terms" definition).	M	<b>DC Simple:</b> <dc:coverage> <b>DC Terms:</b> <dcterms:coverage>, <dcterms:spatial>, <dcterms:temporal> <b>MODS:</b> <mods:subject authority=""> <mods:geographic>; <mods:subject authority=""> <mods:hierarchicalGeographic>; <mods #{@ns_decl}><subject authority='lcsh'> <temporal>500-1400</temporal></subject></mods>"; <mods:subject authority=""> <mods:cartographics> <b>VRA 4.0 Core:</b> <vra: stylePeriod> in <vra: work> or <vra: collection>; <vra: subject><term> in <vra: work><vra: collection> or <vra: image>; <vra: location type="site"> or <vra: location type="formerSite"> in <vra: work>; <vra: location type="discovery"> in <vra: work> or <vra:		All

<sup>4</sup>Rules for Archival Description, last modified on 12 October 2012: <[https://www.ica-atom.org/doc/Rules for Archival Description#Administrative history.2Fbiographical sketch](https://www.ica-atom.org/doc/Rules%20for%20Archival%20Description#Administrative%20history.2Fbiographical%20sketch)>; <http://www.cdncouncilarchives.ca/archdesrules.html>

2.5. Coverage				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
		collection>; <b>AGLS</b> (location) <b>ISO 19115-2:2009</b> -Geographic information -- Metadata -- Part 2: Extensions for imagery and gridded data. <b>ISO - 3166-1</b> - Codes for the representation of names of countries and their subdivisions— Part 1: Country <b>ISO 3166-2</b> - Codes for the representation of names of countries and their subdivisions— Part 2: Country <b>MARC List for Geographic Areas</b> . The codes in this list are linked to the equivalent codes in ISO 639-2 and ISO 639-5 and the corresponding two-character codes in ISO 639-1		

2.6. Location				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Location: A spatial region or named place. ( <u>"DC Terms" definition</u> ). The file location element <FLocat> provides a pointer to the location of a content file. It uses the XLink reference syntax to provide linking information indicating the actual location of the content file, along with other attributes specifying additional linking information. <FLocat> is an empty element. The location of the resource pointed to MUST be stored in the xlink:href attribute. FILE LOCATION Attributes: ID (ID/O): Used to identify a particular location of a file used when other locations for the file exist within the <file> element. LOCTYPE (string/R): Specifies the type of locator or	M	<b>DC Simple:</b> <dc:coverage> <b>DC Terms:</b> <dcterms:LocationPeriodJurisdiction>, <dcterms:location> <b>MODS:</b> <mods:location>, <mods:physicalLocation authority="">, <mods:physicalLocation>, <mods:place> <b>VRA 4.0 Core:</b> <vra :location type="creation" in <vra: work> or <vra: collection>, <vra: location><name type="geographic">, <vra: location><name type="geographic" pref=>, <vra: location><name type="geographic">, <vra: location><name type="geographic" xml:lang=>, <vra: location><name type="geographic" source=> or <name vocab=>, <vra: location> <name type="geographic" extent=>	LoC	All

2.6. Location				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
identifier contained in the <FLocat> element. The controlled values for this attribute group are: LOCATION, ARK, URN, PURL, HANDLE, DOI, OTHER. (METS)		<b>METS</b> <sup>5</sup> :<mets:mets xmlns:mets="http://www.loc.gov/METS/" xmlns:mods="http://www.loc.gov/ods/v3/" xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:xsi="http://www.w3.org/2001/XMLSchema- instance", xsi:schemaLocation="http://www.loc.gov/METS/ http://www.loc.gov/standards/mets/mets.xsd		

5

<mets> Metadata encoding and transmission standard: primer and reference manual, version 1.6, september 2007, p.36: <http://www.loc.gov/standards/mets>

2.7. Date				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Date: A point or period of time associated with an event in the lifecycle of the resource. (<b>"DC Terms" definition</b>).            CREATEDATE (dateTime/O): Records the date/time the METS document was created.            LASTMODDATE (dateType/O): Is used to indicate the date/time the METS document was last modified.  <b>(METS)</b>            Information about the creating application, including the version of the application and the date the file was created, can be useful for problem solving purposes. For example, it is not uncommon for certain versions of software to be known for causing conversion errors or introducing artifacts. It is also useful to determine which rendering software is available for the digital object. For example, if you know that the Distiller program created the PDF file, you know it will be renderable with (among other programs) Adobe Reader. <b>(PREMIS)</b></p>	M	<p><b>DC Simple:</b> &lt;dc:date&gt;  <b>DC Terms:</b> &lt;dcterms:date&gt;, &lt;dcterms:created&gt;  <b>MODS:</b>&lt;mods:originInfo&gt;;            &lt;mods:dateCreated encoding="temper   w3cdtf" qualifier=""&gt;;            [Note: do not use &lt;dateCaptured&gt; when describing Date of Creation for a born-digital resource];            &lt;mods:originInfo&gt;;            &lt;mods:dateOther encoding="temper   w3cdtf" qualifier=""&gt;;            &lt;mods:publicationInfo&gt; &lt;mods:dateIssued encoding="temper   w3cdtf" qualifier=""&gt;;            &lt;mods:dateIssued&gt;  <b>VRA 4.0 Core:</b> &lt;vra: date type="creation"&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;;            &lt;vra: date type="creation"&gt; &lt;earliestDate&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;;            &lt;vra: date type="creation"&gt;; &lt;latestDate&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;;            &lt;vra: date type=&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;;            &lt;vra: date type="discovery"&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;;            &lt;vra: date type="discovery"&gt;&lt;earliestDate&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;;            &lt;vra: date type="view"&gt; in &lt;vra: image&gt;;  <b>METS:</b>&lt;metsHdr CREATEDATE="2004-02-22T00:00:00"&gt;            LASTMODDATE="2004-03-16T00:00:00"  <b>PREMIS 1.5.5.3</b> dateCreatedByApplication (O, NR) [file, bitstream]  <b>ISO 8601:1997</b> - Data elements and interchange formats - Information interchange - Representation of dates and times.</p>		All

2.7.1. DateRange				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Date Range. Start and end dates and times associated with an entity. (AGRkMS definition).	O	<b>DC Simple:</b> <dc:date> <b>VRA 4.0 Core:</b> <vra: date type="creation"> in <vra: work> or <vra: collection>; <vra: date type="creation"> <earliestDate> in <vra: work> or <vra: collection>; <vra: date type="creation">; <latestDate> in <vra: work> or <vra: collection>; <vra: date type=> in <vra: work> or <vra: collection>; <vra: date type="discovery"> in <vra: work> or <vra: collection>; <vra: date type="discovery"><earliestDate> in <vra: work> or <vra: collection>;		All

2.8. Extent				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Extent: The size or duration of the resource. ("DC Terms" <i>definition</i> ). Characteristics of a particular object subjectively determined to be important to maintain through preservation actions. Objects that have the same technical properties may still differ as to the properties that should be preserved for future presentation or use. Technical properties of a file or bitstream that are applicable to all or most formats. There are some important technical properties that apply to objects of any format. Detailed definition of format-specific	O	<b>DC Terms:</b> <dcterms:extent> <b>MODS</b> <mods:physicalDescription> <mods:extent>; <physicalDescription> <extent unit="pages">12</extent> </physicalDescription>] <b>VRA 4.0 XML</b> <vra: measurements><display> in <vra: work> or <vra: collection>; <vra: measurements type="scale"> in <vra: work> or <vra: collection> <b>METS</b> <file.size> <b>PREMIS</b> 1.4 significantProperties (O, R)		Digital Object



2.8. Extent				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
properties is outside the scope of this Data Dictionary, although such properties may be included within objectCharacteristicsExtension. <i>(PREMIS)</i>		1.4.1 significantPropertiesType (O, NR) 1.4.2 significantPropertiesValue (O, NR) 1.4.3 significantPropertiesExtension (O, R) 1.5.7 objectCharacteristicsExtension <b>AGRKMS</b> (physicalDimension, logicalSize, quantity, units) <b>MRKMS</b> (Extent) <b>QRKMS</b> ( extent) <b>GC-RMMS</b> (FormatExtent) <b>SARKMS</b> (Extent)		

2.9. AccrualMethod				
Description	Obligation	Reference Standard Crosswalks	Other references	Applied to Entity
Accrual Method: The method by which items are added to a collection. (DCMI Metadata Terms).	R	<b>DC terms:</b> <dcterms:accrualMethod> <b>ISAD, DACS:</b> System of arrangement <b>EAD:</b> <arrangement>		All

2.9.1. AccrualPeriodicity				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Accrual Periodicity: The frequency with which items are added to a collection. (DCMI Metadata Terms)	O	<b>DC terms:</b> <dcterms:accrualPeriodicity>		Digital Object

2.9.2. AccrualPolicy				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
Accrual Policy: The policy governing the addition of items to a collection. ( <i>"DCMI Metadata Terms" definition</i> ).	0	<b>DC terms:</b> <dcterms:accrualPolicy>	<b>RAD</b> Arrangement	All

2.10. Language				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Language: A language of the intellectual content of the resource. (<i>"DC Terms" definition</i>).</p> <p>Term that indicates the language that is an integral part of the resource, such as a caption that is part of a photograph or a title that is part of a painting. (<i>"CDL Guidelines for Digital Objects" definition</i>)</p> <p>A designation of the language in which the content of a resource is expressed. (<i>"LoC Metadata" definition</i>).</p>	M	<p><b>DC Simple:</b> &lt;dc:language&gt;</p> <p><b>DC Terms:</b> &lt;dcterms:language&gt;</p> <p><b>MODS:</b> &lt;mods:languageTerm authority="iso639-2b" type="code"&gt;</p> <p><b>ARKMS</b> (language)</p> <p>ISO 7200:2004. Technical product documentation - Data fields in title blocks and document headers</p> <p>ISO 639 (1, 2, 3)</p> <p>Language Codes</p> <p>ISO 639-5:2008</p> <p>Codes for the representation of names of LANGUAGES -- Part 5: Alpha-3 code for language families and groups</p>		All

2.11. Note				
Description	Obligation	Reference Standard(s). Crosswalks	Other references	Applied to Entity
<p>Note: General textual information relating to a resource. ("LoC Metadata" definition).</p> <p>General textual information about the physical description of a resource. ("MODS" definition).</p> <p>Revision text: brief description about modifications made in document after its review. (NF EN82045-2:2005).</p> <p>The element &lt;agent&gt; has two sub-elements, name &lt;name&gt; and note &lt;note&gt;. The element &lt;name&gt; can be used to record the full name of the document agent. The &lt;note&gt; element can be used to record any additional information regarding the agent's activities with respect to the METS document. (METS)</p>	M	<p><b>DC Terms:</b> &lt;dcterms:description&gt;</p> <p><b>MODS:</b> &lt;mods:note&gt;</p> <p><b>VRA 4.0 Core:</b>&lt;vra: description&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;; &lt;vra: description source=&gt; in &lt;vra: work&gt; or &lt;vra: collection&gt;; &lt;vra: title type=&gt; in &lt;vra: image&gt;</p> <p><b>METS:</b> &lt;mets:agent ROLE="CREATOR" TYPE="ORGANIZATION"&gt;; &lt;mets:name&gt;UCSD&lt;/mets:name&gt; &lt;mets:note&gt;SIP METS submitted to CDL.&lt;/mets:note&gt;; &lt;mets:agent ROLE="EDITOR" TYPE="ORGANIZATION"&gt; &lt;mets:name&gt;California Digital Library&lt;/mets:name&gt; &lt;mets:note&gt;DIP METS created.&lt;/mets:note&gt; &lt;/mets:agent&gt;</p> <p><b>NF EN82045-2:2005</b></p>		All

3.USE Metadata_Group				
Group of metadata	Element Description	Element Description	Obligation	Applied to Entity
USE	Rights: Information about rights held in and over the resource (DCMI Metadata Terms)	RightsDescription RightsType RightsStatus RightsDate RightsHolder	M	all
	Access: Information about who can access the resource or an indication on its security status (DCMI Metadata Terms)	AccessRightsType SecurityClassification Caveat UseConditions AccessStatement DeterminationDate ReviewDueDate Permissions	M	all
	Provenance: A statement of any changes in ownership and custody of the resource since its creation that are significant for its authenticity, integrity, and interpretation (DCMI Metadata Terms)		M	Digital Object
	Instructional Method: A process, used to engender knowledge, attitudes and skills, that the described resource is designed to		M	all

3.USE Metadata_Group				
Group of metadata	Element Description	Element Description	Obligation	Applied to Entity
	support. (DCMI Metadata Terms)			
	Owner: The person or organization that currently owns an item or collection. An entity who has legal possession of the collection (CLD).		M	Digital Object
	Audience: A class of entity for whom the resource is intended or useful (DCMI Metadata Terms)		O	Digital Object, Mandate
	Format: The file format, physical medium, or dimensions of the resource (DCMI Metadata Terms)	Medium Extent Software Integrity Check Signature Encryption	M	Digital Object

3.1 Rights				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
Rights: Information about rights held in and over the resource (DCMI Metadata Terms ).	M	DC terms: <dcterms:rights>, VRA Core 4.0 <Rights>		All

3.1.1. RightsDescription				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
Additional information about the rights of the object (PREMIS). A description of the way in which access to or use of records is governed or restricted. (AGRKMS)	M	<b>DUBLIN CORE TERMS</b> (dcterms:rights); <b>METSRights</b> (RightsDeclaration, ConstraintDescription), <b>AGRKMS</b> (RightsStatement), <b>PREMIS</b> (RightsStatement, OtherRightsNote, LicenceInformation, LicenceTerm, LicenseNote), VRA Core 4.0 <Rights>		all

<b>3.1.2. RightsType</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Specification of the type of rights being described. E.g archival access, authorized public access, copyright, disclaimer, embargo, FOI, intellectual property, privacy, use permission, etc. (AGRKMS)	C	DUBLIN CORE TERMS (dcterms:license), METSRights(RightsCategory; OtherCategoryType) PREMIS (RightsBasis, OtherRightsBasis), AGRKMS(RightsType), SARKMS(RightsType),	METSRights(RightsCategory:Copyrighted, Licensed, PublicDomain, Contractual, Other; OtherCategoryType) PREMIS (RightsBasis Suggested values: copyright, license, statute, other), LIDO (RightsType:copyright, publication right, data protection right,trademark), VRA Core4.0 (Rights Type) Restricted Schema Type Values,	All

<b>3.1.3. RightsStatus</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Information about whether a record may be released or published, or whether it is to be wholly or partially withheld from public access. (AGRKMS)	C	DUBLIN CORE TERMS (dcterms:rights); AGRKMS(RightsStatus), SARKMS(RightsStatus),	AGRKMS Rights Status Scheme (open, open with exemptions, closed, may be released under FOI, not for release, may be published, limited release, published), SARKMS Rights Status Scheme	Digital Object

<b>3.1.4. RightsDate</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
The date range during which the particular rights applies or applied to the content (PREMIS). The date on which a right is or was current (LIDO)	M	DUBLIN CORE TERMS (dcterms:dateCopyrighted,dcterms:created, dcterms:dateAccepted, dcterms:dateSubmitted, dcterms:issued, dcterms:modified, dcterms:available, dcterms:issued, dcterms:dateCopyrighted), PREMIS (copyrightStatusDeterminationDate, copyrightApplicableDates, LicenceApplicableDates, StatuteApplicableDates,OtherRightsApplicableDates), ISO 8601:2004	LIDO (RightsDate)	All

<b>3.1.5. RightsHolder</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
A person or organization owning or managing rights over the resource (DCMI Metadata Terms )	M	DUBLIN CORE TERMS (dcterms:rightsHolder), MODS (rightsHolder), ,	LIDO (RightsHolder), VRA Core 4.0 (RightsHolder), CDL (CopyrightsOwner)	All



<b>3.2 AccessRights</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Information about who can access the resource or an indication of its security status (DCMI Metadata Terms). Access rights determine the accessibility (or restrictions applying to access) to a record or a group of records. An aggregation of records may 'inherit' the highest level of access rights contained within it (QRKMS).	M	DC terms: (dcterms:accessRights), MODS (AccessConditions), QRKMS (AccessRights), RIM-203 (AccessRights), GC-RMMS (AccessRights), MODS (AccessConditions type - suggested values: restriction on access, use and reproduction )QRKMS access rights scheme ( Not for release, May be published, May be released under FOI, Limited release, Open after <x> years, Embargoed		All

<b>3.2.1. SecurityClassification</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Security classification describes the sensitivity of a record and outlines the consequences of unauthorised release (QRKMS)	M	DUBLIN CORE TERMS (dcterms:accessRights), AGRKMS(SecurityClassification), QRKMS (SecurityClassification), GC-RMMS (Sensitivity), SARKMS(SecurityClassification)	SARKMS Security Classification Scheme( Public, Government, Protected, Confidential, Secret, Top Secret), Protective AGRKMS - Security Manual Security Classifications (Restricted ,Confidential, Secret, Top Secret, X-in-	All

3.2.1. SecurityClassification				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
			Confidence, Protected, Highly Protected, Cabinet-in-Confidence),	

3.2.2. Caveat				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
Caveat limits access to certain records to those authorised to access them. It is used in conjunction with security classification to prevent everyone with, for example, 'in-confidence' clearance from accessing all 'in-confidence' documents (QRKMS).	O	DUBLIN CORE TERMS (dcterms:accessRights), AGRKMS( SecurityCaveat), QRKMS( Caveat), SARKMS(Caveat)	AGRKMS Protective Security Manual Security Caveat Categories ( Codeword, Source Codeword, Eyes Only, Australian Government Access Only, Releasability, Special-handling Caveat), QRKMS Caveat scheme (audit,budget, cabinet, commercial, council, executive, finance, personnel),	All

<b>3.2.3. UseConditions</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Use condition should describe the conditions under which a record becomes available for access (QRKMS).	O	DUBLIN CORE TERMS (dcterms:accessRights), PREMIS (StatuteInformation), QRKMS(UseConditions), MRKMS (UsageConditions), GC-RMMS (usageConditions), SARKMS(UseConditions),		All

<b>3.2.4. AccessStatement</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Access statement should describe why a particular access regime (i.e. security classification, caveat or use condition) was imposed, or is used to document penalties which apply to unauthorised/inappropriate use (QRKMS).	O	DUBLIN CORE TERMS (dcterms:accessRights), QRKMS(AccessStatement), SARKMS(AccessStatement),		All

<b>3.2.5. DeterminationDate</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Determination date can document the date/s on which a particular access regime was imposed (QRKMS).	M	DUBLIN CORE TERMS (dcterms:date), QRKMS(DeterminationDate), SARKMS(DeterminationDate), ISO8601:2004		All

<b>3.2.6. ReviewDueDate</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Review due date documents the date on which a review of an access determination should take place. It could also be used to flag automatic security declassification after a set period (QRKMS).	O	DUBLIN CORE TERMS (dcterms:date), QRKMS(ReviewDueDate), SARKMS(ReviewDueDate), ISO8601:2004		All

<b>3.2.7. Permissions</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Permission describes a set of uses to which a digital object can be put as defined by the rights holder in a given context (METSRights). Permissions identify an agent's ability to undertake certain recordkeeping actions on a record or an aggregation of records or to specify the type of permission assigned to a business function or activity (SARKMS).	O	DUBLIN CORE TERMS (dcterms:AccessRights), METSRights (Permission), SARKMS(Permissions)	METSRights Permission attributes (discover, display, copy, duplicate, modify, delete, print, other), SARKMS Permissions Scheme(add, delete, move,update, view)	All

<b>3.3. Provenance</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
A statement of any changes in ownership and custody of the resource since its creation that are significant for its authenticity, integrity, and interpretation (DCMI Metadata Terms).	R	DUBLIN CORE TERMS (dcterms:provenance), CLD (cld:CustodialHistory)		Digital Object, Event, Agent.

<b>3.4. Instructional Method</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
A process, used to engender knowledge, attitudes and skills, that the described resource is designed to support(DCMI Metadata Terms).	O	DUBLIN CORE TERMS (dcterms:instructionalMethod), ISAD, DACS: System of arrangement EAD: <arrangement>		All

<b>3.5. Owner</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
The person or organization that currently owns an item or collection. An entity who has legal possession of the collection (DC-CAP).	R	DUBLIN CORE TERMS (dcterms:RightsHolder), CLD(cld:owner)	MARC Relator Codes,	Digital Object, Agent

<b>3.6. Audience</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
A class of entity for whom the resource is intended or useful (DCMI Metadata Terms).	O	DUBLIN CORE TERMS (dcterms:audience, dcterms:EducationalLevel, dcterms:mediator), MODS (TargetAudience), SARKMS (MandateAudience)	SARKMS Audience Scheme,	Digital Object, Mandate

<b>3.7. Format</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
The file format, physical medium, or dimensions of the resource (DCMI Metadata Terms).	M	DUBLIN CORE TERMS (dcterms:format), MODS (InternetMediaType), METS (file:mimetype), PREMIS (formatDesignation, formatRegistry, formatNote), 1.5 ObjectCharacteristics (M, R) [file, bitstream], 1.5.3 size (O, NR) [file, bitstream] AGRKMS (formatName, formatVersion, formatRegistry), MRKMS (DataFormat), QRKMS (DataFormat), RIM-203(DataFormat), GC-RMMS (FormatMime), SARKMS (DataFormat), VRA 4.0 XML <vra:measurements type="height" unit="pixels" extent="overall">165</vra:measurements>	QRKMS data format scheme, SARKMS Data Format Scheme	Digital Object

<b>3.7.1. Medium</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
The material or physical carrier of the resource (DCMI Metadata Terms).	O	DUBLIN CORE (dcterm:medium), MODS (form), PREMIS (storageMedium) AGRKMS (medium), MRKMS (ContentMedium, StorageMedium), QRKMS (Medium), RIM-203(FormatMedium), GC-RMMS (FormatMedium), SARKMS (Medium),	VRA Core 4.0 (Material), LIDO (Resource type), QRKMS medium scheme, SARKMS Medium Scheme,	Digital Object

<b>3.7.2. Software</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Software required to render or use the object (software). Information about the application that created the object (creating application - PREMIS).	R	PREMIS (swName, swVersion,swType,swOtherInformation,swDependency, CreatingApplicationName,CreatingapplicationVersion ), AGRKMS (CreatingApplicationName, creatingApplicationVersion), QRKMS (OriginalCreatingEnvironment, Current Environment)		Digital Object, Event.

<b>3.7.3. IntegrityCheck</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Information used to verify whether an object has been altered in an undocumented or unauthorized way (PREMIS fixity).	R	PREMIS (messageDigestAlgorithm, messageDigest,messageDigestOriginator), AGRKMS (HashFunctionName, MessageDigest), QRKMS (HashFunctionName, MessageDigest)		All.

<b>3.7.4. Signature</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Information needed to use a digital signature to authenticate the signer of an object and/or the information contained in the object (PREMIS).	R	PREMIS( signatureEncoding,signer, signatureMethod, signatureValue, signatureValidationRules, signatureProperties, keyInformation), QRKMS (DigitalSignature),		Digital Object



3.7.5. Encryption				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
Features of the object intended to inhibit access, use, or migration (PREMIS). Information, or pointers to information, about how a record is systematically scrambled (GC-RMMS).	R	PREMIS (InhibitorType, inhibitorType, inhibitorKey), GC-RMMS (EncryptionDescription, EncryptionStatus)		Digital Object

4.RELATION Metadata_Group				
Group of metadata	Element Description	Element Description	Obligation	Applied to Entity
RELATION	Relation: Level of aggregation/Relation: a link between one entity and another, or between various aggregations of the same entity (MRKMS).	Related_Entity_ID Relation_Type Relationship_Description Relationship_date	M	all

4.1. RelatedEntity ID				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
A related resource(DCMI Metadata Terms). A unique identifier for the related entity or information resource (MRKMS). A link to the identity of the related entity, for the purpose of precisely identifying the related objects. (ISO23081-2:2009)	M	DUBLIN CORE TERMS ( dcterms:relation, dcterms:identifier), MODS (RelatedItem ID, identifier), PREMIS (relatedObjectIdentification, relatedEventIdentification, IdentifierValue), MRKMS( relatedItemID, entityID, PersonID, RecordIdentifier ), SARKMS (RelatedEntityIdentifier), QRKMS (RelatedEntityIdentifier, record identifier, agent identifier), METS (ID, OBJID), AGRKMS(AssignedEntityID, identifier string), RIM-203(identifier), SARKMS(identifier string), VRA Core 4.0 (Relids),		All

4.2. RelationType				
Description	Obligation	Reference Standard. Crosswalks	Other References	Applied to Entity
<p>Relation Type: Indicates the nature of the relationship (QRKMS). A category of relationship between Entities, at the same or different levels of aggregation, or between digital objects and other digital objects (MRKMS). Express the nature of the relationship and the role of the specific linked entities in the relationship in an unambiguous way. for example, contains, controls, precedes (ISO 23081-2:2009).</p>	M	<p>DUBLIN CORE TERMS (dcterms:ConformsTo, dcterms:isVersionOf, dcterms:HasVersion, dcterms:isFormatOf, dcterms:hasFormat, dcterms:isReplacedBy, dcterms:replaces, dcterms:isPartOf, dcterms:hasPart, dcterms:requires, dcterms:isRequiredBy, dcterms:isReferencedBy, dcterms:references, dcterms:source), MODS (RelatedItem Type), PREMIS (relationshipSubType) MRKSM (RelationshipType), QRKMS (RelationshipType), SARKMS (RelationshipType, RelationshipDefinition), AGLS (isBasisFor, isBasedOn)</p>	<p>QRKMS relationship type scheme, MODS type (preceding, succeeding, original, host, constituent, series, otherVersion, otherFormat, isReferencedBy, references, reviewOf), PREMIS (suggested values: hasSibling, hasPart, isPartOf, isSourceOf, hasSource, hasRoot, includes, isIncludedIn), MRKMS (Contains/Contained In, Next/Previous, Replaces/Replaced By, References/Is Referenced By, Derived From), SARKMS Relationship Definition Scheme, LOD-BD (bibo:translationOf, bibo:annotates, bibo:citedBy, bibo:cites), VRA Core 4.0 (Relation Type) Restricted Schema Type Values,</p>	All

<b>4.3. RelationshipDescription</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Information about the relationship not explicit or obvious in Relation Type. Further explanatory notes or details about the relationship. It provides additional contextual information about the relationship. It might be necessary to explain the reasoning behind why a particular relationship between particular records/resources was defined.(MRKMS)	M	DUBLIN CORE TERMS (dcterms:title, dcterms:description), MODS (title), MRKMS (RelationDescription), VRA Core 4.0 (title, description).		All

<b>4.4. RelationshipDate</b>				
<b>Description</b>	<b>Obligation</b>	<b>Reference Standard. Crosswalks</b>	<b>Other References</b>	<b>Applied to Entity</b>
Is the date the relationship was created (QRKMS). It can be system assigned at the time a relationship is established (SARKMS). The commencement and, if relevant, the end date of the relationship instance (ISO 23081-2:2009).	M	DUBLIN CORE TERMS ( dcterms:date), SARKMS(RelationshipDate), QRKMS (RelationshipDate), ISO8601:2004		All