

## EDM elements mapped to Schema.org elements

EDM data is divided amongst classes representing different resources (the original object, the digital representation etc.) in compliance with the one-to-one principle. For the purpose of schema.org mark-up, the statements attached to the ProvidedCHO, corresponding proxies and aggregations are merged onto one single resource. See <http://pro.europeana.eu/edm-documentation> for the EDM specification.

[For more rationale on the decisions, see the report from Richard Wallis https://asset1.basecamp.com/1768384/projects/12310412/attachments/238569842/Europeana%20Schema.org%20Consultancy%20Report%20Final.pdf](https://asset1.basecamp.com/1768384/projects/12310412/attachments/238569842/Europeana%20Schema.org%20Consultancy%20Report%20Final.pdf)

EDM element (according to the latest specs 2016)	Value type	Obligation	Definitive mappings	Candidate mappings and notes
<b>ProvidedCHO &amp; Proxy</b>				
ProvidedCHO & Proxy			schema:CreativeWork	All proxies for a given ProvidedCHO contribute to a same schema.org resource
dc:contributor	literal or ref		schema:contributor	Should relate to a schema:Person or Schema:Organization
dc:coverage	literal or ref		schema:about	In theory if the coverage is a place (dcterms:spatial) schema:spatialCoverage would be applicable. If a time period (dcterms:temporal), temporalCoverage would be the one. But in practice schema:about is probably the best we can hope for.
dc:creator	literal or ref		schema:creator	Should relate to a schema:Person or Schema:Organization
dc:date	literal or ref			schema:dateCreated was thought of, as it's often used as default for CreativeWorks. But it really doesn't fit the dc:date we have in Europeana, which can be any date, not just creation.
dc:description	literal or ref		schema:description	
dc:format	literal or ref		schema:artform	Only when we know that the resource is of type VisualArtwork - see note about using VisualArtwork
dc:identifier	literal			
dc:language	literal		schema:inLanguage	wherever possible should be mapped to BCP 47

dc:publisher	literal or ref		schema:publisher	Should relate to a schema:Person or Schema:Organization. so this means this is a property for which we won't be able to map to anything else than schema:Thing, unless it comes with a URI that has a schema.org type already. And we won't probably make a mapping process that would be so complex on pulling out external statements right now. So it is flagged as future work.
dc:relation	literal or ref			
dc:rights	literal or ref			Mapping dc:rights to to schema:license won't always work as it is not a controlled field and allows literals. Only edm:rights will provide a URI (But edm:rights on the Aggregation or WebResource will often be different from the rights of the Provided CHO, see comment in Aggregation)
dc:source	literal or ref			
dc:subject	literal or ref		schema:about	
dc:title	literal		schema:name	
dc:type	literal or ref		schema:about	Also helps towards decision as to entity type
dcterms:alternative	literal		schema:alternateName	
dcterms:conformsTo	literal or ref			
dcterms:created	literal or ref		schema:dateCreated	Wherever possible should be mapped to ISO 8601
dcterms:extent	literal or ref			
dcterms:hasFormat	literal or ref			dcterms:hasFormat is not a property to map directly to a Schema property. It is a signal to use when identifying which schema Type(s) to use (next to the default schema: CreativeWork)
dcterms:hasPart	literal or ref		schema:hasPart	
dcterms:hasVersion	literal or ref			
dcterms:isFormatOf	literal or ref		schema:exampleOfWork	Could be used as a signal to identify related work

dcterms:isPartOf	literal or ref		schema:isPartOf	could additionally be mapped to the more specialized schema:partOfSeries if the 'part' ProvidedCHO is involved is in a edm:isNextInSequenceOf or edm:isSuccessorOf with another ProvidedCHO that is dcterms:isPartOf the same 'whole'. In this case the 'whole' should be dually-typed as CreativeWorkSeries
dcterms:isReferencedBy	literal or ref			
dcterms:isReplacedBy	literal or ref			
dcterms:isRequiredBy	literal or ref			
dcterms:issued	literal or ref		schema:datePublished	Wherever possible should be mapped to ISO 8601
dcterms:isVersionOf	literal or ref			
dcterms:medium	literal or ref		schema:artMedium	Only when we know that the resource is of type VisualArtwork
dcterms:provenance	literal or ref			
dcterms:references	literal or ref		schema:mentions	
dcterms:replaces	literal or ref			
dcterms:requires	literal or ref			
dcterms:spatial	literal or ref		schema:spatialCoverage	subproperty of schema:contentLocation added in v3.1
dcterms:tableOfContents	literal or ref			
dcterms:temporal	literal or ref		schema:temporalCoverage, schema:about	subproperty of schema:about added in v3.1. temporalCoverage ideally should be in ISO8601 format, unless there is a URL for a more descriptive entity is available. There could be a situation where about and temporalCoverage are supplied, describing the same time period, but containing different representations of that period. eg. schema:temporalCoverage: "1939-09-01/1945-09-02", schema:about: "World War II"

edm:currentLocation	reference	[0,1]	Not to be mapped yet	Physical location would be mapped via schema:Offer + schema:availableAtOrFrom - see holdings example: <a href="https://www.w3.org/community/schemabibex/wiki/Holdings_via_Offer">https://www.w3.org/community/schemabibex/wiki/Holdings_via_Offer</a> . But it is preferable to postpone further specification and implementation for the moment, this property is less urgent, and may benefit from our having richer (organization) data.
edm:hasMet	reference			
edm:hasType	literal or ref		schema:about	Catered for with multi-typing edm:hasType should be used to help decide the schema Type(s) to assign to a CHO
edm:incorporates	reference		schema:hasPart	
edm:isDerivativeOf	reference		schema:isBasedOn	
edm:isNextInSequence	reference	[0,1]	schema:previousItem	In combination with schema:ListItem for the parent object
edm:isRelatedTo	literal or ref			
edm:isRepresentationOf	reference	[0,1]	schema:about	
edm:isSimilarTo	reference			
edm:isSuccessorOf	reference		schema:previousItem	In combination with schema:ListItem
edm:realizes	reference		schema:exampleOfWork	
edm:type	literal	1	N/A	Europeana purpose only, not really fit for general scenarios Can be used to help decide the schema Type(s) to assign to a CHO or a WebResource
edm:wasPresentAt	reference			
edm:europaProxy			N/A	Internal purpose
edm:year			schema:dateCreated	No property generic enough in schema.org - usually years defaults to using dateCreated, but edm:year is too generic (and noisy, due to the process of automatically extracting it.
ore:proxyFor			N/A	Proxies are merged with ProvidedCHOs for schema.org.
ore:proxyIn			N/A	

owl:sameAs	reference		schema:sameAs	
rdf:type	reference			
<b>Aggregation and EuropeanaAggregation</b>				
Aggregation and EuropeanaAggregation				Currently Aggregation data is merged with ProvidedCHO and Proxy data. This may be revisited if schema.org adopts a one-to-one approach.
ore:aggregates	reference		N/A	See above
edm:aggregatedCHO	reference	1	N/A	
edm:country	literal	1	schema:addressCountry	
edm:dataProvider	literal or ref	1	schema:provider	
edm:hasView	reference		schema:url	If we can recognize the object of this property to be an instance of (a subclass of) schema:MediaObject then the mapping of hasView should be audio/image/video (as per the section 'audio/image/video' in the report) or contenturl (but if we fail to recognize a specific type of media object then we will probably fail to recognize that we have a media object in general).
edm:isShownAt	reference	[0,1]	schema:url	
edm:isShownBy	reference	[0,1]	schema:contentUrl	schema:contentUrl is only valid for MediaObject & subtypes, which should be alright for edm:isShownBy values
edm:landingPage			schema:url	The value is the Europeana portal page URL.
edm:language				No mapping. Mapping to schema:inLanguage would conflict with the inLanguage built from ProvidedCHO/proxy's dc:language.
edm:object	reference	[0,1]	schema:image	Previously this mapping was activated only when there was no preview opt-out from the providers. But this opt-out has been deprecated since.
edm:preview	reference		schema:thumbnailUrl	The value is the URL of the thumbnail used for the portal. Previously this mapping was activated only when there was no preview opt-out from the providers. But this opt-out has been deprecated since.

edm:provider	literal or ref	[0,1]	schema:provider	
dc:rights	literal or ref			Rights statements at the level of the Aggregation (and the WebResource) are often not the ones for the ProvidedCHO
edm:rights	reference	1		
edm:ugc	literal	[0,1]		There is nothing special in Schema.org that could capture this other than fully detailing the provider with whatever info is available
edm:intermediateProvider	literal or ref	[0,1]	schema:provider	
<b>WebResource</b>				
edm:WebResource			schema:WebPage or schema:MediaObject	Webpage if the WebResource is referred from the Aggregation using edm:isShownAt, MediaObject otherwise
rdf:about	reference		schema:url	The value is the identifier (rdf:about) of the web resource
dc:creator	literal or ref		schema:creator	
dc:description	literal or ref		schema:description	
dc:format	literal or ref			
dc:rights	literal or ref			Use edm:rights to populate schema:license. but see question in the Aggregation
dc:source	literal or ref		schema:encodesCreativeWork	
dcterms:conformsTo	literal or ref			
dcterms:created	literal or ref		schema:dateCreated	Wherever possible should be mapped to ISO 8601 date format
dcterms:extent	literal or ref			
dcterms:hasPart	literal or ref		schema:hasPart	
dcterms:isFormatOf	literal or ref			
dcterms:isReferencedBy	literal or ref			

dcterms:isPartOf	reference		schema:isPartOf	
dcterms:issued	literal or ref		schema:datePublished	Wherever possible should be mapped to ISO 8601 date format
edm:isNextInSequence	reference	[0,1]	schema:previousItem	In combination with schema:ListItem for the parent object
edm:preview	reference	[0,1]		
edm:rights	reference	[0,1]	schema:license	New - but see question in the Aggregation
owl:sameAs	reference		schema:sameAs	
<b>Agent</b>				
edm:Agent			schema:Person or schema:Organization	Now EDM does not distinguish persons and organisations at the class level. Many mappings can be used for both, assuming such "noise" is ok for schema.org. Alternatively, we could have rules based on the presence of person- or organization-specific elements like rdaGr2:gender. We need: - a list of agent attributes for Agents that indicate a person or an organization - a list of properties for CHOs, whose values are expected to be a person or organization
skos:prefLabel	literal	[0,1] per lang tag	schema:name	
skos:altLabel	literal		schema:alternateName	schema:additionalName for person, schema:name for organization. additionalName is person specific and designed for middle names etc. schema:alternateName can be used for all types.
skos:note	literal		schema:description	
dc:date	reference			
dc:identifier	reference			
edm:begin	literal	[0,1]	schema:birthDate	schema:birthDate for person or schema:foundingDate for organization. Wherever possible should be mapped to ISO 8601 date format

edm:end	literal	[0,1]	schema:deathDate	schema:deathDate for person or schema:dissolutionDate for organization. Wherever possible should be mapped to ISO 8601 date format
edm:hasMet	reference			schema:knows for person, only if the target is a Person.
edm:isRelatedTo	reference			edm:isRelatedTo is broader than the family relations specified for schema:relatedTo
edm:wasPresentAt	reference			schema:event for organization. For persons, schema:performerIn is too specific.
foaf:name	literal		schema:name	
rdaGr2:biographicalInformation	literal		schema:description	
rdaGr2:dateOfBirth	literal	[0,1]	schema:birthdate	Wherever possible should be mapped to ISO 8601 date format
rdaGr2:dateOfDeath	literal	[0,1]	schema:deathdate	Wherever possible should be mapped to ISO 8601 date format
rdaGr2:dateOfEstablishment	literal	[0,1]	schema:foundingDate	Wherever possible should be mapped to ISO 8601 date format
rdaGr2:dateOfTermination	literal	[0,1]	schema:dissolutionDate	Wherever possible should be mapped to ISO 8601 date format
rdaGr2:gender	literal	[0,1]	schema:gender	
rdaGr2:professionOrOccupation	literal or ref		schema:jobTitle	
rdaGr2:placeOfBirth	literal or ref	[0,1]	schema:birthPlace	
rdaGr2:placeOfDeath	literal or ref	[0,1]	schema:deathPlace	
owl:sameAs	ref to Agent		schema:sameAs	
<b>Places</b>				
edm:Place			schema:Place	Properties of a schema:GeoCoordinates can be gathered onto a schema:Place via a schema:geo
wgs84_pos:lat	literal	[0,1]	schema:latitude	

wgs84_pos:long	literal	[0,1]	schema:longitude	
wgs84_pos:alt	literal	[0,1]	schema:elevation	
wgs84_pos:lat_long	literal	[0,1]		
skos:prefLabel	literal	[0,1] per lang tag	schema:name	
skos:altLabel	literal		schema:alternateName	schema:name. Several names allowed - or schema:alternateName
skos:hiddenLabel	literal			If it is sharable with the outside world, it could be mapped to schema:alternateName.
skos:note	literal		schema:description	
dcterms:hasPart	ref to Place		schema:containsPlace	
dcterms:isPartOf	ref to Place		schema:containedIn	
edm:isNextInSequence	reference		schema:previousItem	In combination with schema:ListItem for the parent parent
owl:sameAs	ref to Place		schema:sameAs	
<b>TimeSpan</b>				
edm:TimeSpan				schema>Date is only a datatype for ISO8601 values
skos:prefLabel	literal	[0,1] per lang tag		
skos:altLabel	literal		schema:alternateName	
skos:note	literal			
dcterms:hasPart	ref to TimeSpan			
dcterms:isPartOf	ref to TimeSpan			
edm:begin	literal	[0,1]		
edm:end	literal	[0,1]		
edm:isNextInSequence	reference			
crm:P79F.beginning_is_qualified_by	literal			

crm:P80F. end_is_qualified_by	literal			
owl:sameAs	ref to TimeSpan		schema:sameAs	
<b>Concepts</b>				
skos:Concept			Schema:Thing	See proposals in the Schema Bib Ext community group. Define as Type schema:Thing Also Schema.org extension proposal for External Enumerations: <a href="https://github.com/schemaorg/schemaorg/issues/894">https://github.com/schemaorg/schemaorg/issues/894</a>
skos:prefLabel	literal	[0,1] per lang tag	schema:name	
skos:altLabel	literal		schema:alternateName	
skos:broader, skos: narrower, skos:related	ref to Concept			
skos:broadMatch, skos: narrowMatch, skos: relatedMatch	ref to Concept			
skos:exactMatch, skos: closeMatch	ref to Concept			
skos:note	literal			
skos:notation	string (+ rdf: datatype)			
skos:inScheme	ref to Concept Scheme			
<b>Other (non-core) Classes: Future Work</b>				
dcat:Dataset			schema:Dataset	
cc:License			N/A	
foaf:Organization			schema:Organization	
edm:FullTextResources				

svcs:Service			schema:Service	
skos:ConceptScheme			N/A for now	
edm:Event			schema:Event	
edm:PhysicalThing			schema:Thing schema:Product	
oa:Annotation			schema:Comment schema:Review ...	See paragraph in report. There was some discussion on using children of schema:(Assess)Action as types here. But the data is possibly the result of performing an action, not the action itself.