

# Circular Economy Ontology Network (CEON) - Resource ODP

## Metadata

### IRI

<http://w3id.org/CEON/ontology/resourceODP/>

### Title

Circular Economy Ontology Network  
(CEON) - Resource ODP

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### Version Iri

<http://w3id.org/CEON/ontology/resourceODP/0.3/>

### Version Info

0.3

### Preferred Namespace Prefix

resourceODP

### Preferred Namespace Uri

<http://w3id.org/CEON/ontology/resourceODP/>

### Description

A core ODP of the CEON ontology network  
defining aspects of the resource concept.

### Covers Requirements

Covers the following requirements from  
Onto-DESIDE D3.1: CVN-Resource-1,3,  
CVN-Composition-1,2, CVN-ResourceType-  
4, C7-3, E2-2, E4-6, E5-1, E6-3, T3-1.

## Classes

### Location<sup>c</sup>

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<b>IRI</b>	<a href="http://w3id.org/CEON/ontology/location/Location">http://w3id.org/CEON/ontology/location/Location</a>
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<b><u>In Range Of</u></b>	<a href="#"><u>hasResourceLocation</u></a> <sup>op</sup>
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## Batch of objects<sup>c</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/BatchOf0bjects>

### Description

A batch of objects is a collection of physical objects that are of the same type, e.g. a set of items (product objects) adhering to the same product model.

### Sub Class Of

[Resource](#)<sup>c</sup>  
[has physical object](#)<sup>op</sup>  
some [Physical object](#)<sup>c</sup>  
*and* [has physical object](#)<sup>op</sup>  
only [Physical object](#)<sup>c</sup>

### In Domain Of

[batch size](#)<sup>dp</sup>

### In Range Of

[has batch](#)<sup>op</sup>

### Restriction

[batch size](#)<sup>dp</sup> *exactly* 1  
[Batch of objects](#)<sup>c</sup>

## Constituent<sup>c</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/Constituent>

### Description

A constituent is a component of object.

### In Range Of

[has constituent](#)<sup>op</sup>

## Digital object<sup>c</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/DigitalObject>

**Sub Class Of** [Resource<sup>c</sup>](#)

## Information<sup>c</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/Information>

**Description** Information is an abstract concept that represents any kind of interpretations. For instance, information can be data generated by software systems or data used by people for communications.

**Sub Class Of** [Resource<sup>c</sup>](#)

**In Domain Of** [containsInformation<sup>op</sup>](#)  
[isAbout<sup>op</sup>](#)

**In Range Of** [containsInformation<sup>op</sup>](#)  
[is realization of<sup>op</sup>](#)

## Matter<sup>c</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/Matter>

**Description** A matter is a physical substance.

**In Range Of** [has matter](#)<sup>op</sup>

## Physical object<sup>c</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/PhysicalObject>

**Description** A physical object is a collection of matter.

**Sub Class Of** [Resource](#)<sup>c</sup>  
[has constituent](#)<sup>op</sup> only [Constituent](#)<sup>c</sup> *and* [has constituent](#)<sup>op</sup> some [Constituent](#)<sup>c</sup>  
[has matter](#)<sup>op</sup> only [Matter](#)<sup>c</sup> *and* [has matter](#)<sup>op</sup> some [Matter](#)<sup>c</sup>

**In Domain Of** [has constituent](#)<sup>op</sup>  
[has matter](#)<sup>op</sup>

**In Range Of** [has physical object](#)<sup>op</sup>

## Resource<sup>c</sup>

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### IRI

<http://w3id.org/CEON/ontology/resource>  
[ODP/Resource](#)

### Description

A resource able to be handled in the context of a circular value network, e.g. data generated by software systems in the CVN, materials or products as physical objects handled in the CVN.

### In Domain Of

[hasResourceLocation<sup>op</sup>](#)

### Super Class Of

[Batch of objects<sup>c</sup>](#)  
[Digital object<sup>c</sup>](#)  
[Information<sup>c</sup>](#)  
[Physical object<sup>c</sup>](#)  
[Set of objects<sup>c</sup>](#)

## Set of objects<sup>c</sup>

**IRI** <http://w3id.org/CEN/ontology/resourceODP/SetOfObjects>

### Description

A set of objects is a set of physical objects (items) that can be of different types, i.e. different kinds of items.

### Sub Class Of

[Resource](#)<sup>c</sup>  
[has batch](#)<sup>op</sup> only [Batch of objects](#)<sup>c</sup> *and* [has batch](#)<sup>op</sup> some [Batch of objects](#)<sup>c</sup>  
[has physical object](#)<sup>op</sup> some [Physical object](#)<sup>c</sup> *and* [has physical object](#)<sup>op</sup> only [Physical object](#)<sup>c</sup>

### In Domain Of

[has batch](#)<sup>op</sup>

## Object Properties

### has location<sup>op</sup>

**IRI** <http://w3id.org/CEN/ontology/location/hasLocation>

**Super Property Of** [hasResourceLocation](#)<sup>op</sup>

## contains information<sup>op</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/containsInformation>

**Sub Property Of** [hasPart<sup>op</sup>](#)

**Domain** [Information<sup>c</sup>](#)

**Range** [Information<sup>c</sup>](#)

## has batch<sup>op</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/hasBatch>

**Description** hasBatch intends to represent that a set of objects can be captured by a number of batches where each batch contains a number of physical objects.

**Domain** [Set of objects<sup>c</sup>](#)

**Range** [Batch of objects<sup>c</sup>](#)



## has constituent<sup>op</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/hasConstituent>

**Description** hasConstituent intends to represent that a physical object can have a collection of composing components.

**Sub Property Of** [hasPart<sup>op</sup>](#)

**Domain** [Physical object<sup>c</sup>](#)

**Range** [Constituent<sup>c</sup>](#)

## has matter<sup>op</sup>

**IRI** <http://w3id.org/CEON/ontology/resourceODP/hasMatter>

**Description** hasMatter intends to represent that a physical object can have a collection of matter.

**Domain** [Physical object<sup>c</sup>](#)

**Range** [Matter<sup>c</sup>](#)

## has part<sup>op</sup>

**IRI** <http://w3id.org/CEN/ontology/resourceODP/hasPart>

### Super Property Of

- [containsInformation<sup>op</sup>](#)
- [has constituent<sup>op</sup>](#)

## has physical object<sup>op</sup>

**IRI** <http://w3id.org/CEN/ontology/resourceODP/hasPhysicalObject>

### Description

hasPhysicalObject intends to represent that a batch of objects or a set of objects can have composing components of physical objects.

### Domain

[Set of objects<sup>c</sup>](#) *or* [Batch of objects<sup>c</sup>](#)

### Range

[Physical object<sup>c</sup>](#)

## has resource location<sup>op</sup>

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**IRI** <http://w3id.org/CEON/ontology/resourceODP/hasResourceLocation>

**Sub Property Of** [location:hasLocation<sup>op</sup>](#)

**Domain** [Resource<sup>c</sup>](#)

**Range** [location:Location<sup>c</sup>](#)

## is about<sup>op</sup>

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**IRI** <http://w3id.org/CEON/ontology/resourceODP/isAbout>

**Domain** [Information<sup>c</sup>](#)

## is realization of<sup>op</sup>

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**IRI** <http://w3id.org/CEON/ontology/resourceODP/isRealizationOf>

**Range** [Information<sup>c</sup>](#)

## Datatype Properties

batch size <sup>dp</sup>	
IRI	<a href="http://w3id.org/CEON/ontology/resourceODP/batchSize">http://w3id.org/CEON/ontology/resourceODP/batchSize</a>
Description	batchSize intends to represent how many physical objects are belong to a batch of objects.
Domain	<a href="#">Batch of objects<sup>c</sup></a>
Range	<a href="#">xsd:nonNegativeInteger</a>

## Annotation Properties

description <sup>ap</sup>	
IRI	<a href="http://purl.org/dc/elements/1.1/description">http://purl.org/dc/elements/1.1/description</a>

contributor <sup>ap</sup>	
IRI	<a href="http://purl.org/dc/terms/contributor">http://purl.org/dc/terms/contributor</a>

created<sup>ap</sup>

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**IRI** <http://purl.org/dc/terms/created>

creator<sup>ap</sup>

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**IRI** <http://purl.org/dc/terms/creator>

description<sup>ap</sup>

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**IRI** <http://purl.org/dc/terms/description>

license<sup>ap</sup>

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**IRI** <http://purl.org/dc/terms/license>

title<sup>ap</sup>

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**IRI** <http://purl.org/dc/terms/title>

preferred namespace prefix<sup>ap</sup>

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**IRI** <http://purl.org/vocab/vann/preferredNamespacePrefix>

preferred namespace uri <sup>ap</sup>	
IRI	<a href="http://purl.org/vocab/vann/preferredNamespaceUri">http://purl.org/vocab/vann/preferredNamespaceUri</a>

covers requirements <sup>ap</sup>	
IRI	<a href="http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#coversRequirements">http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#coversRequirements</a>

definition <sup>ap</sup>	
IRI	<a href="http://www.w3.org/2004/02/skos/core#definition">http://www.w3.org/2004/02/skos/core#definition</a>

pref label <sup>ap</sup>	
IRI	<a href="http://www.w3.org/2004/02/skos/core#prefLabel">http://www.w3.org/2004/02/skos/core#prefLabel</a>

## Namespaces

: <http://w3id.org/CEON/ontology/resourceODP/>  
 dc <http://purl.org/dc/elements/1.1/>  
 dcterms

<http://purl.org/dc/terms/>

**geo**

<http://www.opengis.net/ont/geosparql#>

**location**

<http://w3id.org/CE0N/ontology/location/>

**odp**

<http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#>

**owl**

<http://www.w3.org/2002/07/owl#>

**prov**

<http://www.w3.org/ns/prov#>

**rdf**

<http://www.w3.org/1999/02/22-rdf-syntax-ns#>

**rdfs**

<http://www.w3.org/2000/01/rdf-schema#>

**skos**

<http://www.w3.org/2004/02/skos/core#>

**vann**

<http://purl.org/vocab/vann/>

**xsd**

<http://www.w3.org/2001/XMLSchema#>

## Legend

c	Classes
op	Object Properties
dp	Data type Properties
ap	Annotation Properties