# Circular Economy Ontology Network (CEON) - Resource ODP

## Metadata

**IRI**

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

**Title**

Circular Economy Ontology Network (CEON) - Resource ODP

**Creator**

Huanyu Li

**Contributor**

Eva Blomqvist

Mikael Lindecrantz

Robin Keskisärkkä

**Date Created**

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**Version Iri**

http://w3id.org/CEON/ontology/resourceODP/0.2/

**Version Info**

0.2

**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-ResrouceType-4, C7-3, E2-2, E4-6, E5-1, E6-3, T3-1.

## Classes

### Batch of objects [c]

| | |
|---|---|
| **IRI** | `http://w3id.org/CEON/ontology/resourceODP/BatchOfObjects` |
| **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 [c]<br>has physical object [op]<br>some Physical object [c]<br>*and* has physical object [op]<br>only Physical object [c] |
| **In Domain Of** | batch size [dp] |
| **In Range Of** | has batch [op] |
| **Restriction** | batch size [dp] *exactly* 1<br>Batch of objects [c] |

## Composition [c]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/Composition |
| **Description** | A composition is used to represent how a whole or mixture is made up. E.g., for chemical elements composing a chemical structure, the compostion should hold information of the ratio of the composing chemical elments. |

## Constituent [c]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/Constituent |
| **Description** | A constituent is a component of object. |
| **In Range Of** | has constituent [op] |

## Digital object [c]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/DigitalObject |
| **Sub Class Of** | Resource [c] |

## Information [c]

| | |
|---|---|
| **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 [c] |
| **In Domain Of** | containsInformation [op]<br>isAbout [op] |
| **In Range Of** | containsInformation [op]<br>is realization of [op] |

## Matter [c]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/Matter |
| **Description** | A matter is a physical substance. |
| **In Range Of** | has matter [op] |

## Physical object [c]

| | |
|---|---|
| **IRI** | `http://w3id.org/CEON/ontology/resourceODP/PhysicalObject` |
| **Description** | A physical object is a collection of matter. |
| **Sub Class Of** | Resource [c]<br>has constituent [op] some Constituent [c] *and* has constituent [op] only Constituent [c]<br>has matter [op] only Matter [c] *and* has matter [op] some Matter [c] |
| **In Domain Of** | has constituent [op]<br>has matter [op] |
| **In Range Of** | has physical object [op] |

## Resource [c]

| | |
|---|---|
| **IRI** | `http://w3id.org/CEON/ontology/resourceODP/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 prooducts as physical objects handled in the CVN. |
| **In Domain Of** | hasResourceLocation [op] |
| **Super Class Of** | Batch of objects [c]<br>Digital object [c]<br>Information [c]<br>Physical object [c]<br>Set of objects [c] |

## Set of objects [c]

| | |
|---|---|
| **IRI** | `http://w3id.org/CEON/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 [c]<br>has batch [op] some Batch of objects [c] *and* has batch [op] only Batch of objects [c]<br>has physical object [op] only Physical object [c] *and* has physical object [op] some Physical object [c] |

### Geometry [c]

| | |
|---|---|
| **IRI** | `http://www.opengis.net/ont/geosparql#Geometry` |
| **Description** | A coherent set of direct positions in space. The positions are held within a Spatial Reference System (SRS). |
| **In Domain Of** | as GML [dp]<br>as GeoJSON [dp]<br>as WKT [dp] |
| **In Range Of** | hasResourceLocation [op] |

## Object Properties

### contains information [op]

| | |
|---|---|
| **IRI** | `http://w3id.org/CEON/ontology/resourceODP/containsInformation` |
| **Sub Property Of** | hasPart [op] |
| **Domain** | Information [c] |
| **Range** | Information [c] |

## has batch [op]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/hasBatch |
| **Description** | hasBatch intends to represent that a set or batch of objects can be captured by a number of batches where each batch contains a number of physical objects. |
| **Domain** | Set of objects [c] *or* Batch of objects [c] |
| **Range** | Batch of objects [c] |

## has constituent [op]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/hasConstituent |
| **Description** | hasConstitutent intends to represent that a physical object can have a collection of composing components. |
| **Sub Property Of** | hasPart [op] |
| **Domain** | Physical object [c] |
| **Range** | Constituent [c] |

## has matter op

| | |
|---|---|
| **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 c |
| **Range** | Matter c |

## has part op

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/hasPart |
| **Super Property Of** | • containsInformation op<br>• has constituent op |

## has physical object [op]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/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** | Batch of objects [c] *or* Set of objects [c] |
| **Range** | Physical object [c] |

## has resource location [op]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/hasResourceLocation |
| **Domain** | Resource [c] |
| **Range** | Geometry [c] |

## is about [op]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/isAbout |
| **Domain** | Information [c] |

### is realization of [op]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/isRealizationOf |
| **Range** | Information [c] |

## Datatype Properties

### batch size [dp]

| | |
|---|---|
| **IRI** | http://w3id.org/CEON/ontology/resourceODP/batchSize |
| **Description** | batchSize intends to repsent how many physical objects are belong to a batch of objects. |
| **Domain** | Batch of objects [c] |
| **Range** | xsd:nonNegativeInteger |

## as GML dp

| | |
|---|---|
| **IRI** | `http://www.opengis.net/ont/geosparql#asGML` |
| **Is Defined By** | http://www.opengis.net/spec/geosparql/1.0/req/geometry-extension/geometry-as-wkt-literal |
| **Description** | The GML serialization of a Geometry. |
| **Domain** | Geometry c |
| **Range** | geo:gmlLiteral |

## as GeoJSON dp

| | |
|---|---|
| **IRI** | `http://www.opengis.net/ont/geosparql#asGeoJSON` |
| **Is Defined By** | http://www.opengis.net/spec/geosparql/1.0/req/geometry-extension/geometry-as-wkt-literal |
| **Description** | The GeoJSON serialization of a Geometry. |
| **Domain** | Geometry c |
| **Range** | geo:geoJSONLiteral |

### as WKT dp

| | |
|---|---|
| **IRI** | `http://www.opengis.net/ont/geosparql#asWKT` |
| **Is Defined By** | http://www.opengis.net/spec/geosparql/1.0/req/geometry-extension/geometry-as-wkt-literal |
| **Description** | The WKT serialization of a Geometry. |
| **Domain** | Geometry c |
| **Range** | geo:wktLiteral |

## Annotation Properties

### description ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/elements/1.1/description` |

### contributor ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/terms/contributor` |

## created ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/terms/created` |

## creator ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/terms/creator` |

## description ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/terms/description` |

## license ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/terms/license` |

## title ap

| | |
|---|---|
| **IRI** | `http://purl.org/dc/terms/title` |

## preferred namespace prefix ap

| | |
|---|---|
| **IRI** | `http://purl.org/vocab/vann/preferredNamespacePrefix` |

### preferred namespace uri [ap]

| | |
|---|---|
| **IRI** | http://purl.org/vocab/vann/preferredNamespaceUri |

### covers requirements [ap]

| | |
|---|---|
| **IRI** | http://www.ontologydesignpatterns.org/schemas/cpannotationschema.owl#coversRequirements |

### definition [ap]

| | |
|---|---|
| **IRI** | http://www.w3.org/2004/02/skos/core#definition |

### pref label [ap]

| | |
|---|---|
| **IRI** | http://www.w3.org/2004/02/skos/core#prefLabel |

## 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#

**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#

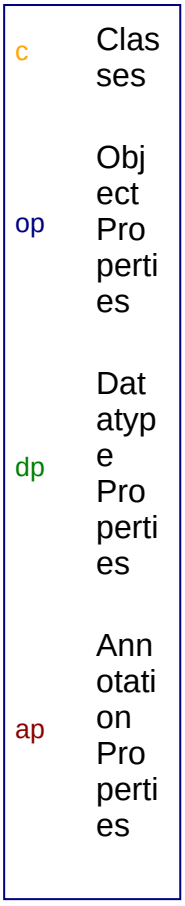
**vann**

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

**xsd**

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

## Legend


c
Classes
op
Object Properties
dp
Datatype Properties
ap
Annotation Properties