

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

Date Created

2025-03-20

License

<https://creativecommons.org/licenses/by/4.0/>

Version Iri

<http://w3id.org/CEON/ontology/resourceODP/0.5/>

Version Info

0.5

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.

Covers the following requirements from Onto-DESIDE D3.2: CE1-2, CE3-3, CE4-3, CE5-2, CE9-1, CE10-1, CE11-8, CE12-2, CE12-4, C7-3, E2-2, E4-6, E5-1, E6-3, T3-1.

Classes

Location ^C	
IRI	http://w3id.org/CEON/ontology/location/Location
In Range Of	hasResourceLocation ^{OP}
Asset ^C	
IRI	http://w3id.org/CEON/ontology/resourceODP/Asset
Super Class Of	Information ^C Resource ^C

Batch Of Objects^C

IRI	http://w3id.org/CE0N/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 instances) adhering to the same product model.
Sub Class Of	Resource ^C has physical object ^{op} only Physical object ^C <i>and</i> has physical object ^{op} some Physical object ^C
In Domain Of	batch size ^{dp}
In Range Of	has batch ^{op}
Restriction	batch size ^{dp} <i>exactly</i> 1 Batch Of Objects ^C

Constituent^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/Constituent
Description	A constituent is a component of object.
In Range Of	has constituent ^{op}

Digital object^C

IRI	http://w3id.org/CE0N/ontology/resourceODP/Digital0bject
Sub Class Of	Resource ^C

Information^C

IRI	http://w3id.org/CE0N/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	Asset ^C
In Domain Of	containsInformation ^{op} isAbout ^{op}
In Range Of	containsInformation ^{op} is realization of ^{op}

Matter^C

IRI <http://w3id.org/CE0N/ontology/resourceODP/Matter>

Description A matter is a physical substance.

In Range Of [has matter](#)^{op}

Physical object^C

IRI <http://w3id.org/CE0N/ontology/resourceODP/PhysicalObject>

Description A physical object is a collection of matter.

Sub Class Of [Resource](#)^C
[has constituent](#)^{op} some [Constituent](#)^C *and* [has constituent](#)^{op} only [Constituent](#)^C
[has matter](#)^{op} only [Matter](#)^C *and* [has matter](#)^{op} some [Matter](#)^C

In Domain Of [has constituent](#)^{op}
[has matter](#)^{op}

In Range Of [has physical object](#)^{op}

Resource^C

IRI <http://w3id.org/CE0N/ontology/resourceODP/Resource>

Is Defined By ISO 59004:2024 - 3.1.5 resource

Description Asset from which a solution is created or implemented. Depending on the context, reference to “resource” includes “raw material”, “feedstock”, “material” or “component”. Resource includes any energy type (e.g. the energy content or energy potential of materials). Note 4 to entry: Resources can be considered concerning both stocks and flows.

Sub Class Of [Asset](#)^C
[hasResourceCondition](#)^{op} only [ResourceCondition](#)^C *and* [hasResourceCondition](#)^{op} some [ResourceCondition](#)^C
[hasResourceProperty](#)^{op} some [ResourceProperty](#)^C *and* [hasResourceProperty](#)^{op} only [ResourceProperty](#)^C
[hasResourceQuality](#)^{op} some [ResourceQuality](#)^C *and* [hasResourceQuality](#)^{op} only [ResourceQuality](#)^C

In Domain Of [hasResourceCondition](#)^{op}
[hasResourceLocation](#)^{op}
[hasResourceProperty](#)^{op}
[hasResourceQuality](#)^{op}

Super Class Of [Batch Of Objects](#)^C
[Digital object](#)^C
[Physical object](#)^C
[Set of objects](#)^C

Resource Condition^c

IRI	http://w3id.org/CE0N/ontology/resourceODP/ResourceCondition
<u>In Range Of</u>	hasResourceCondition ^{op}

Resource Property^c

IRI	http://w3id.org/CE0N/ontology/resourceODP/ResourceProperty
<u>In Range Of</u>	hasResourceProperty ^{op}

Resource Quality^c

IRI	http://w3id.org/CE0N/ontology/resourceODP/ResourceQuality
<u>In Range Of</u>	hasResourceQuality ^{op}

Set of objects^c

IRI	http://w3id.org/CE0N/ontology/resourceODP/SetOfObjects
<u>Description</u>	A set of objects is a set of physical objects (items) that can be of different types, i.e. different kinds of items.
<u>Sub Class Of</u>	Resource ^c has batch ^{op} only Batch Of Objects ^c <i>and</i> has batch ^{op} some Batch Of Objects ^c has physical object ^{op} some Physical object ^c <i>and</i> has physical object ^{op} only Physical object ^c
<u>In Domain Of</u>	has batch ^{op}

Object Properties

has location^{op}

IRI	http://w3id.org/CE0N/ontology/location/hasLocation
<u>Super Property Of</u>	hasResourceLocation ^{op}

contains information^{op}

IRI	http://w3id.org/CE0N/ontology/resourceODP/containsInformation
<u>Sub Property Of</u>	hasPart ^{op}
<u>Domain</u>	Information ^c
<u>Range</u>	Information ^c

has batch^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/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 ^c
Range	Batch Of Objects ^c

has constituent^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/hasConstituent
Description	hasConstituent 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/CE0N/ontology/resource0DP/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/CE0N/ontology/resource0DP/hasPart
Super Property Of	<ul style="list-style-type: none">• containsInformation^{op}• has constituent^{op}

has physical object^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/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 condition^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/hasResourceCondition
Domain	Resource ^C
Range	ResourceCondition ^C

has resource location^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/hasResourceLocation
Sub Property Of	location:hasLocation ^{op}
Domain	Resource ^C
Range	location:Location ^C

has resource property^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/hasResourceProperty
Domain	Resource ^C
Range	ResourceProperty ^C

has resource quality^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/hasResourceQuality
Domain	Resource ^C
Range	ResourceQuality ^C

is about^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/isAbout
Domain	Information ^C

is realization of^{op}

IRI	http://w3id.org/CE0N/ontology/resource0DP/isRealizationOf
Range	Information ^C

Datatype Properties

batch id ^{dp}	
IRI	http://w3id.org/CE0N/ontology/resource0DP/batchID
Range	xsd:string

batch label ^{dp}	
IRI	http://w3id.org/CE0N/ontology/resource0DP/batchLabel
Range	xsd:string

batch size ^{dp}	
IRI	http://w3id.org/CE0N/ontology/resource0DP/batchSize
Description	batchSize intends to represent how many physical objects are belong to a batch of objects.
Domain	Batch Of Objects^c
Range	xsd:nonNegativeInteger

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/cannotation-schema.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/CE0N/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/cannotationschema.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