

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

2024-11-12

License

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

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-ResrouceType-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}

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 objects) adhering to the same product model.
Sub Class Of	Resource ^C has physical object ^{op} some Physical object ^C and has physical object ^{op} only 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	Resource ^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/resource0DP/Matter>

Description A matter is a physical substance.

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

Physical object^C

IRI <http://w3id.org/CE0N/ontology/resource0DP/PhysicalObject>

Description A physical object is a collection of matter.

Sub Class Of [Resource](#)^C
[has constituent](#)^{op} only [Constituent](#)^C and [has constituent](#)^{op} some [Constituent](#)^C
[has matter](#)^{op} some [Matter](#)^C and [has matter](#)^{op} only [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/resource0DP/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](#)^{op}

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

Set of objects^C

IRI <http://w3id.org/CE0N/ontology/resource0DP/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
[has batch](#)^{op} some [Batch of objects](#)^C and [has batch](#)^{op} only [Batch of objects](#)^C
[has physical object](#)^{op} some [Physical object](#)^C and [has physical object](#)^{op} only [Physical object](#)^C

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

Object Properties

has location^{op}

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

Super Property Of [hasResourceLocation^{op}](#)

contains information^{op}

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

Sub Property Of [hasPart^{op}](#)

Domain [Information^c](#)

Range [Information^c](#)

has batch^{op}

IRI <http://w3id.org/CE0N/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^c](#)

Range [Batch of objects^c](#)

has constituent^{op}

IRI <http://w3id.org/CE0N/ontology/resourceODP/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/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/CE0N/ontology/resource0DP/hasPart>

Super Property Of

- [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 location^{op}

IRI <http://w3id.org/CE0N/ontology/resource0DP/hasResourceLocation>

Sub Property Of [location:hasLocation](#)^{op}

Domain

[Resource](#)^c

Range

[location:Location](#)^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 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/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/CEON/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