

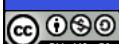
 

# Methodologies for building networks of ontologies

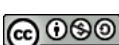
## CUSO Winter School

Oscar Corcho  
Ontology Engineering Group  
Universidad Politécnica de Madrid, Spain

Acknowledgements: Asunción Gómez Pérez, Mari Carmen Suárez-Figueroa

  [ocorcho@fi.upm.es](mailto:ocorcho@fi.upm.es)  [@ocorcho](https://twitter.com/ocorcho)  08/02/2018  Champery, Switzerland

## License

- This work is licensed under the Creative Commons Attribution – Non Commercial – Share Alike License
- You are free:
  -  to Share — to copy, distribute and transmit the work
  -  to Remix — to adapt the work
- Under the following conditions
  - Attribution — You must attribute the work by inserting 
  - “[source <http://www.oeg-upm.net/>]” at the footer of each reused slide
  - a credits slide stating: “These slides are partially based on “Introduction to the NeOn Methodology for building Ontology Networks” by A. Gómez-Pérez & M.C. Suárez-Figueroa”
  - Non-commercial
  - Share-Alike

 Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa 

## About all the material that we will use

- The material used in these sessions has been compiled by Oscar Corcho by reusing existing materials from several OEG members:
  - Asunción Gómez-Pérez
  - Mari Carmen Suárez de Figueroa Baonza
  - María Poveda
  - Mariano Fernández-López
  - etc.

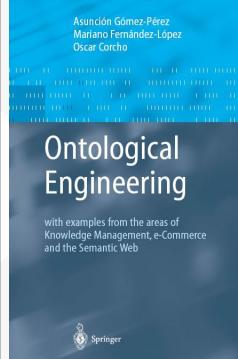
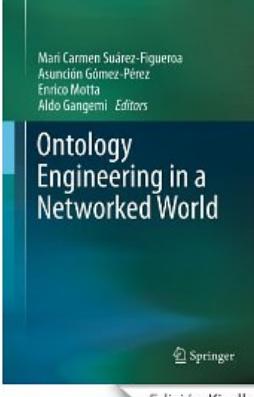


## Ontological Engineering

- It refers to the set of activities that concern
  - the ontology development process,
  - the ontology life cycle,
  - the methods and methodologies for building ontologies,
  - the tool suites
  - and languages that support them



## References

**• NeOn Methodology**

- [The NeOn Methodology framework: A scenario-based methodology for ontology development.](#) Suárez-Figueroa , Mari Carmen | Gómez-Pérez , Asunción | Fernández-López , Mariano. Journal: Applied Ontology, vol. 10, no. 2, pp. 107-145, 2015

**• Glossary of terms**

- Lights and shadows in creating a glossary about ontology engineering. Mari Carmen Suárez-Figueroa, Guadalupe Aguado-de-Cea and Asunción Gómez-Pérez. [Terminology 19:2](#), 2013. iv, 165 pp. (pp. 202–236)

**• Example of use of the NeOn methodology**

- [A network of ontology networks for building e-employment advanced systems.](#) Boris Villazón-Terrazas, Jaime Ramírez, Mari Carmen Suárez-Figueroa, Asunción Gómez-Pérez. Expert Systems with Applications. Vol 38, Issue 11. October 2011, Pages 13612–13624.

**• NeOn Book summaries:**

- [http://www.neon-project.org/nw/NeOn\\_Book](http://www.neon-project.org/nw/NeOn_Book)

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## http://www.neon-project.org/nw/NeOn\_Book

NeOn Book
□

**NeOn Methodology in a Nutshell**

Title	Author(s)
<a href="#">Introduction</a>	Asunción Gómez-Pérez, Enrico Motta, Mari Carmen Suárez-Figueroa
<a href="#">Definition of Ontology Networks</a>	Mathieu d'Aquin, Aldo Gangemi, Peter Haase
<a href="#">NeOn Methodology Framework: Scenarios for Building Ontology Networks and Glossary of Processes and Activities</a>	Mari Carmen Suárez-Figueroa, Asunción Gómez-Pérez
<a href="#">Collection of Ontology Life Cycle Models</a>	Asunción Gómez-Pérez, Mari Carmen Suárez-Figueroa, Mariano Fernández-López
<b>Methodology guidelines</b>	
<a href="#">Ontology Requirements Specification</a>	Asunción Gómez-Pérez, Mari Carmen Suárez-Figueroa
<a href="#">Searching Ontologies</a>	Mathieu d'Aquin, Holger Lewen
<a href="#">Scheduling using gOntt</a>	Mari Carmen Suárez-Figueroa, Asunción Gómez-Pérez
<a href="#">Reusing and Re-engineering Non-Ontological Resources</a>	Asunción Gómez-Pérez, Boris Villazón-Terrazas
<a href="#">Reusing General Ontologies</a>	Mariano Fernández-López, Asunción Gómez-Pérez, Mari Carmen Suárez-Figueroa
<a href="#">Reusing Domain Ontologies</a>	Mari Carmen Suárez-Figueroa, Asunción Gómez-Pérez
<a href="#">Reusing Statements</a>	Mari Carmen Suárez-Figueroa, Mathieu d'Aquin
<a href="#">Conceptualizing using ODPs</a>	Eva Blomqvist, Enrico Daga, Aldo Gangemi, Valentina Presutti,

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## NeOn Methodology factsheets

**Ontology Requirements Specification**

Author: Asunción Gómez-Pérez, Mar Carmen Suárez-Figueroa

The diagram illustrates the process of developing an ontology requirements specification. It starts with 'Requirements elicitation' (Task 1) leading to 'Requirements analysis' (Task 2), then 'Requirements validation' (Task 3). A feedback loop exists between Task 2 and Task 3. The final output is 'Requirements specification document'.

**Ontology Requirements Specification**

Author: Asunción Gómez-Pérez, Mar Carmen Suárez-Figueroa

The diagram illustrates the process of developing an ontology requirements specification. It starts with 'Requirements elicitation' (Task 1) leading to 'Requirements analysis' (Task 2), then 'Requirements validation' (Task 3). A feedback loop exists between Task 2 and Task 3. The final output is 'Requirements specification document'.

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## Index

- [References](#)
- [State of the art](#)
- [The NeOn Methodology](#)
  - [Glossary of activities](#)
  - [Scenarios](#)
  - [Lifecycle models](#)

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## Building ontologies in the 90s

**Methodologies for building single ontologies**

- Uschold and King's method
- Grüniger and Fox's methodology
- KACTUS approach
- METHONTOLOGY
- SENSUS method
- On-To-Knowledge
- DILIGENT

**Some ontology learning approaches**

- Not integrated with existing methodologies
- Mainly from non-structured data using NLP techniques

© Original Artist 1993  
Reproducing rights obtainable from www.cottonStock.com Reynolds

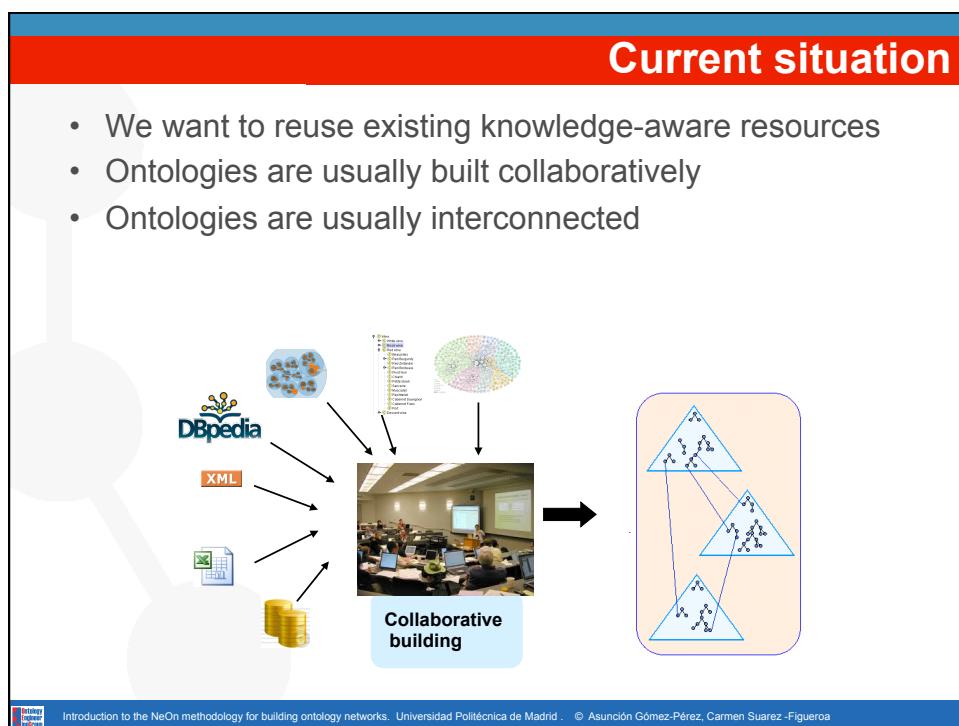
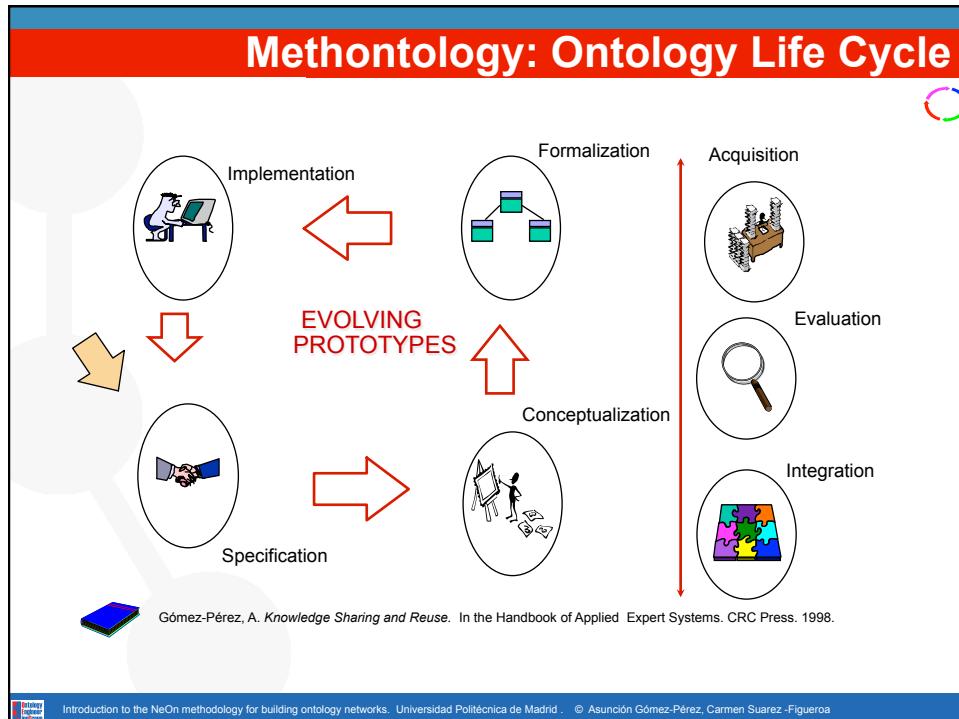
Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## Methontology: Ontology Development Process (II)

The diagram illustrates the Methontology Ontology Development Process (II) with the following components and flow:

- Management activities:**
  - Scheduling:** Represented by a green downward arrow.
  - Control:** Represented by a horizontal pink arrow pointing right.
  - Quality assurance:** Represented by a horizontal pink arrow pointing right.
- Development activities:**
  - A sequence of five purple boxes connected by arrows: **Specification** → **Conceptualization** → **Formalization** → **Implementation** → **Maintenance**.
  - Arrows point from the bottom of each development activity box to the top of the next one in the sequence.
- Support activities:**
  - Four blue arrows pointing right, labeled: **Knowledge acquisition**, **Integration**, **Evaluation**, and **Documentation**.
  - Two blue arrows pointing right, labeled: **Configuration Management**.
  - A vertical grey arrow points upwards from the bottom of the Support activities section to the bottom of the Development activities section.

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa



Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## Dbpedia ontology

### Ontology Classes

- owl:Thing
  - Activity (edit)
    - Game (edit)
      - BoardGame (edit)
    - Sport (edit)
      - Athletics (edit)
      - Boxing (edit)
        - BoxingCategory (edit)
        - BoxingStyle (edit)
      - HorseRiding (edit)
  - Agent (edit)
    - Deity (edit)
    - Family (edit)
      - NobleFamily (edit)
    - Organisation (edit)
      - Band (edit)
      - Broadcaster (edit)
        - BroadcastNetwork (edit)
        - RadioStation (edit)
        - TelevisionStation (edit)
      - ClericalOrder (edit)
      - ComedyGroup (edit)
      - Company (edit)
        - Airline (edit)
        - Brewery (edit)
        - BusCompany (edit)
        - LawFirm (edit)
        - Publisher (edit)
- Person (edit)
  - Ambassador (edit)
  - Archeologist (edit)
  - Architect (edit)
  - Aristocrat (edit)
  - Artist (edit)
    - Actor (edit)
      - AdultActor (edit)
      - VoiceActor (edit)
  - Comedian (edit)
  - ComicsCreator (edit)
  - Dancer (edit)
  - FashionDesigner (edit)
  - Humorist (edit)
  - MusicalArtist (edit)
    - BackScene (edit)
    - ClassicalMusicArtist (edit)
    - Instrumentalist (edit)
      - Guitarist (edit)
    - MusicDirector (edit)
    - Singer (edit)
      - Painter (edit)
      - Photographer (edit)
      - Sculptor (edit)
      - Writer (edit)
        - MusicComposer (edit)
        - PlayWright (edit)
        - Poet (edit)
        - ScreenWriter (edit)

37

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## Schema.org

**schema.org**

Search

Home Schemas Documentation

defined as two hierarchies: one for textual property values, and one for the things that they describe.

in schema.org hierarchy: a collection of types (or "classes") each of which has one or more parent types. Although a type may have more than one super-type, here we see the tree only. There is also a parallel hierarchy for the things that they describe.

ary view:  Core plus all extensions

ension vocabularies

Action

- AchieveAction
- LoseAction
- TieAction
- WinAction
- AssessAction
- ChooseAction
- VoteAction
- IgnoreAction
- ReactAction
- AgreeAction
- DisagreeAction
- DislikeAction
- EndorseAction
- LikeAction

**Person**

Canonical URL: <http://schema.org/Person>

Thing > Person

A person (alive, dead, undead, or fictional).

Usage: Over 1,000,000 domains

(more...)

Property	Expected Type	Description
Properties from Person		
additionalName	Text	An additional name for a Person, can be used for a middle name.
address	PostalAddress or Text	Physical address of the item.
affiliation	Organization	An organization that this person is affiliated with. For example, a school/university, a club, or a team.
alumniOf	EducationalOrganization or Organization	An organization that the person is an alumni of. Inverse property: <code>alumni</code> .

38

## Portals for organisations

Vocabularies Research Objects Vocabulary report

# vocab.linkeddata.es

Here you can find the list of vocabularies that the [Ontology Engineering Group \(OEG\)](#) is developing and publishing on the Web.

Filter by title or domain:

Ontology	Serialization	License	Language	Domain	Description
The P-Plan ontology <a href="#">1</a>	<a href="#">rdf+xml</a> <a href="#">html</a>	<a href="#">CC-BY-NC-SA</a>	en	e-Science provenance scientific workflow	PROV extension for linking Plans and parts of plans to their respective executions.
The Workflow Motif Ontology <a href="#">1</a>	<a href="#">rdf+xml</a> <a href="#">html</a>	<a href="#">CC-BY-NC-SA</a>	en	e-Science workflow abstraction	Ontology for describing Workflow Motifs. Workflow Motifs outline the kinds of data-intensive activities that are observed ... <a href="#">See more</a>
The Workflow Invocation Ontology <a href="#">1</a>	<a href="#">rdf+xml</a> <a href="#">html</a>	<a href="#">CC-BY-NC-SA</a>	en	e-Science infrastructure scientific workflow	WF-invoc is a simple profile of the P-plan ontology to describe how workflow steps are invoked within a workflow execution.
The Research Object Optimization Ontology <a href="#">1</a>	<a href="#">rdf+xml</a> <a href="#">html</a>	<a href="#">CC-BY-NC-SA</a>	en	e-Science Research Object	RO-Optimization is an extension of the RO model in order to be able to describe optimizations of workflows and their results.
The Workflow Fragment Description ontology <a href="#">1</a>	<a href="#">rdf+xml</a> <a href="#">html</a>	<a href="#">CC-BY-NC-SA</a>	en	e-Science workflow abstraction	P-Plan extension to represent workflow fragments and their relationships to workflow templates

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueras 42

## Domain-specific portals (e.g. smart cities)

# smartcity.linkeddata.es

On the Semantic Web, ontologies define the concepts and relationships used to describe a given domain and annotate data about it. In the [READY4SmartCities FP7 CSA](#) we are collecting ontologies about smart cities, energy and other related fields. Here you can find the list of ontologies we have identified so far. You can also propose ontologies to be included in the catalogue, either through a detailed form if you have more time to fill the required data or through a very short form.

### Ontologies

Along the catalogue the following color code is used to represent different information. Furthermore, in addition to the color, each cell contains detailed information when available.

Green for positive indicators Orange for intermediate indicators Red for negative indicators Blue for plain information Grey for unknown fields

The first column of indicators shows whether the ontology is available online in [RDF](#) and [HTML](#) formats. For each format, RDF or HTML, we use the following colors and text tags: [CN OK](#) (for "Content Negotiation OK") if the corresponding content can be retrieved in the given format according to [content negotiation best practices for publishing RDF vocabularies](#), [NO CN](#) (for "NO Content Negotiation") if the content can be retrieved even though no content negotiation mechanisms are properly set up, and [Not Av](#) (for "Not Available") if the content can not be retrieved.

Ontology	Online Availability (RDF   HTML)	Open License	Ontology Language	Syntax	Domain	Natural Language
The W3C PROV Ontology <a href="#">1</a>	<a href="#">CN OK</a> <a href="#">CN OK</a>	<a href="#">W3C</a>	<a href="#">OWL</a>	<a href="#">RDF/XML</a>	provenance	en
eDIANA context awareness ontology <a href="#">1</a>	<a href="#">NO CN</a> <a href="#">CN OK</a>	Unknown	<a href="#">OWL</a>	<a href="#">RDF/XML</a>	devices	en
DOLCE (Descriptive Ontology for Linguistic and Cognitive Engineering) <a href="#">1</a>	<a href="#">NO CN</a> <a href="#">Not Av</a>	Unknown	<a href="#">OWL</a>	<a href="#">RDF/XML</a>	generic ontology	en
CASCADE airport ontology <a href="#">1</a>	<a href="#">NO CN</a> <a href="#">CN OK</a>	Unknown	<a href="#">OWL</a>	<a href="#">RDF/XML</a>	airport facility	en
Data Cube <a href="#">1</a>	<a href="#">NO CN</a> <a href="#">Not Av</a>	<a href="#">PDDL</a>	<a href="#">OWL</a> <a href="#">RDF-S</a>	Turtle	statistics	en
SLIMO (Suspended Linear Merged ead4smartcities.eu/index.php/638667/)	<a href="#">Not Av</a> <a href="#">CN OK</a>	Unknown	<a href="#">OWL</a>	Unknown	generic ontology	en

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueras 43

**Bioportal (medical ontologies)**

Welcome to BioPortal! For help using BioPortal, click on this icon:

**Search all ontologies**

Enter concept, e.g.: Melanoma  Advanced Search

**Find an ontology**

Enter ontology name, e.g.: NCI Thesaurus  Browse Ontologies >

**Search resources**

Enter a concept, e.g.: Melanoma  Advanced Resource Search

**Most Viewed Ontologies**

Ontology	Views
SNOMED Clinical Terms	13,601
National Drug File	9,320
MedDRA	4,254
International Classification of Diseases	3,415
NCI Thesaurus	1,528

**Latest Notes**

- New Term Proposal-JzXVgSUmEOCc (Radiology Lexicon) 22 days ago by rboden
- New Term Proposal-OqPnBnZbfGpdoi (Radiology Lexicon) 22 days ago by rboden
- New Term Proposal-lmTkYGottkuQ (Radiology Lexicon) 22 days ago by rboden
- New Term Proposal-WMPPrBILQEDaFyz (Radiology Lexicon) 22 days ago by rboden
- New Term Proposal-GeoUhPHNHF (Radiology Lexicon) 22 days ago by rboden

**Latest Mappings**

- Malignant neoplasm of bronchus and lung, unspecified (ICD9CM) <=> Non-small cell lung cancer (SNOMEDCT) BioPortal UI 04/02/2013 by twicker
- Malignant neoplasm of unspecified part of unspecified bronchus or lung (ICD10CM) <=> Non-small cell lung cancer (SNOMEDCT) BioPortal UI 04/02/2013 by twicker
- Mixed ductal and lobular carcinoma of breast (SNOMEDCT) <=> Abnormal Cell (NCIT) BioPortal UI 04/02/2013 by twicker
- Infiltrating duct carcinoma of breast (SNOMEDCT) <=> Invasive Ductal Carcinoma, Not Otherwise Specified (NCIT) BioPortal UI 04/02/2013 by twicker

Salvadores, M., Alexander, P. R., Musen, M. A., & Noy, N. F. (2009). Bioportal as a dataset of linked biomedical ontologies and terminologies in RDF. Semantic Web.

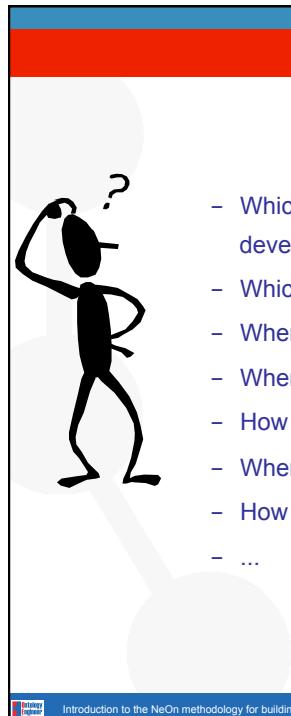
Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

# Index

- Motivation
- State of the art and new trends
- The NeOn Methodology**
  - Glossary of activities
  - Scenarios
  - Lifecycle models

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

## I want to build my ontology



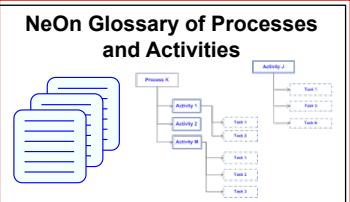
- Which are the key processes and activities in ontology development?
- Which activities do I need in my development?
- When should I carry out each activity?
- Where is the relationship of one activity with the others?
- How do I collect the requirements of my ontology?
- Where can I find ontologies with the goal of reusing them?
- How can I reuse existing knowledge resources?
- ...

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

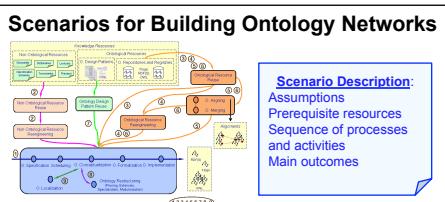
## NeOn Methodology

### Framework: NeOn Methodology for Building Ontology Networks

**NeOn Glossary of Processes and Activities**



**Scenarios for Building Ontology Networks**



**Scenario Description:**  
Assumptions  
Prerequisite resources  
Sequence of processes and activities  
Main outcomes

**Set of Ontology Network Life Cycle Models**

**Waterfall Model**



**Iterative-Incremental Model**



**Methodological Guidelines**

<p><b>Process and Activity Description:</b> General Introduction Filling Card Workflow Examples</p>	<p><b>Processes and Activities Covered:</b></p> <ul style="list-style-type: none"> <li>▪ Ontology Requirements Specification</li> <li>▪ Scheduling</li> <li>▪ Reuse of General Ontologies</li> <li>▪ Reuse of Domain Ontologies</li> <li>▪ Reuse of Ontology Statements</li> </ul>
---	--

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

**The NeOn Glossary of Activities**

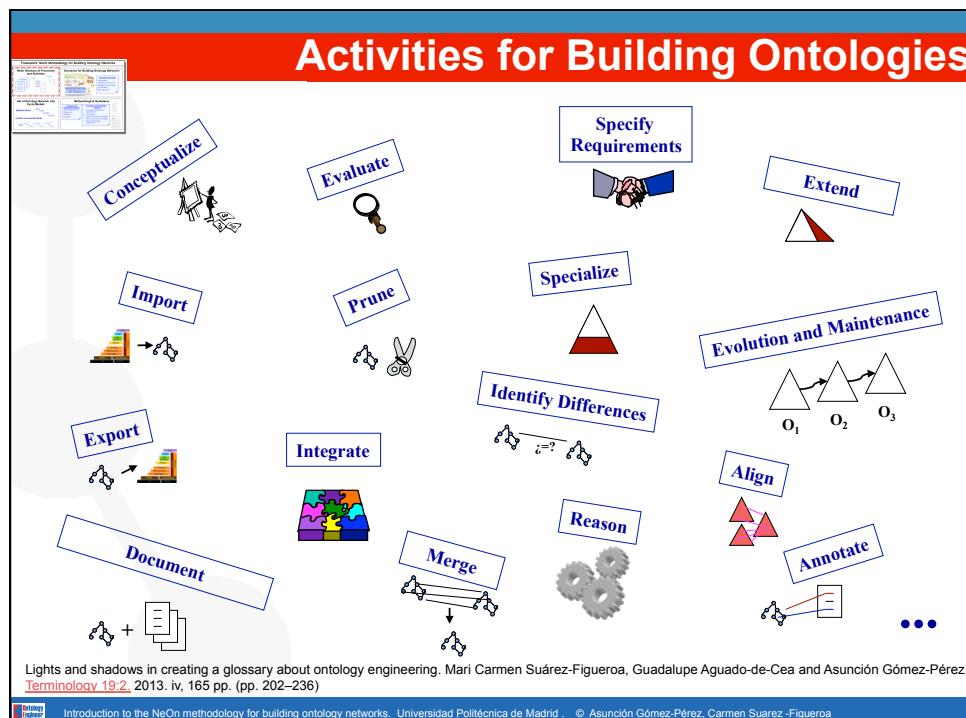
The *NeOn Glossary of Activities* identifies and defines 55 activities that are carried out when ontology networks are collaboratively built

- Published in the NeOn website
- Consensuated by *all* NeOn partners
- On-going procedure for getting feed-back from the community

**NeOn Glossary of Activities**

- **Ontology Alignment / Aligning**
- **Ontology Articulation**
- **Ontology Assessment**
- **Ontology Combining**
- **Ontology Conceptualization**
- **Ontology Configuration Management**
- **Ontology Coordination**
- **Ontology Diagnosis**
- **Ontology Documentation**
- **Ontology Elicitation**
- **Ontology Enrichment**
- **Ontology Evaluation**
- **Ontology Evolution**
- **Ontology Extension**
- **Ontology Formalization**
- **Ontology Implementation**
- **Ontology Integration**
- **Knowledge Acquisition for Ontologies**
- **Ontology Learning**
- **Ontology Localization**
- **Ontology Mapping**
- **Ontology Matching**
- **Ontology Mediation**

<http://www.neon-project.org/>



**NeOn** | **“Recommended and If-Applicable” Activities**

- For each activity included in the NeOn Glossary of Activities, the table identifies which activities are **required** and which activities are **optional** (can be carried out or not, depending on the case) during the ontology network building process.

	<b>Required</b>	<b>If Applicable</b>
<i>Ontology Conceptualization</i>	X	
<i>Ontology Evaluation</i>	X	
<i>Ontology Integration</i>	X	
<i>Knowledge Acquisition for Ontologies</i>	X	
<i>Ontology Learning</i>		X
<i>Ontology Localization</i>		X
<i>Ontology Matching</i>		X
<i>Ontology Search</i>	X	
<i>Ontology Specification</i>	X	

Lights and shadows in creating a glossary about ontology engineering. Mari Carmen Suárez-Figueroa, Guadalupe Aguado-de-Cea and Asunción Gómez-Pérez. *Terminology* 19:2, 2013. iv, 165 pp. (pp. 202–236)

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

**NeOn Methodology**

**Framework: NeOn Methodology for Building Ontology Networks**

**NeOn Glossary of Processes and Activities**

**Scenarios for Building Ontology Networks**

**Scenario Description:**  
Assumptions  
Prerequisite resources  
Sequence of processes and activities  
Main outcomes

**Set of Ontology Network Life Cycle Models**

**Waterfall Model**

**Iterative-Incremental Model**

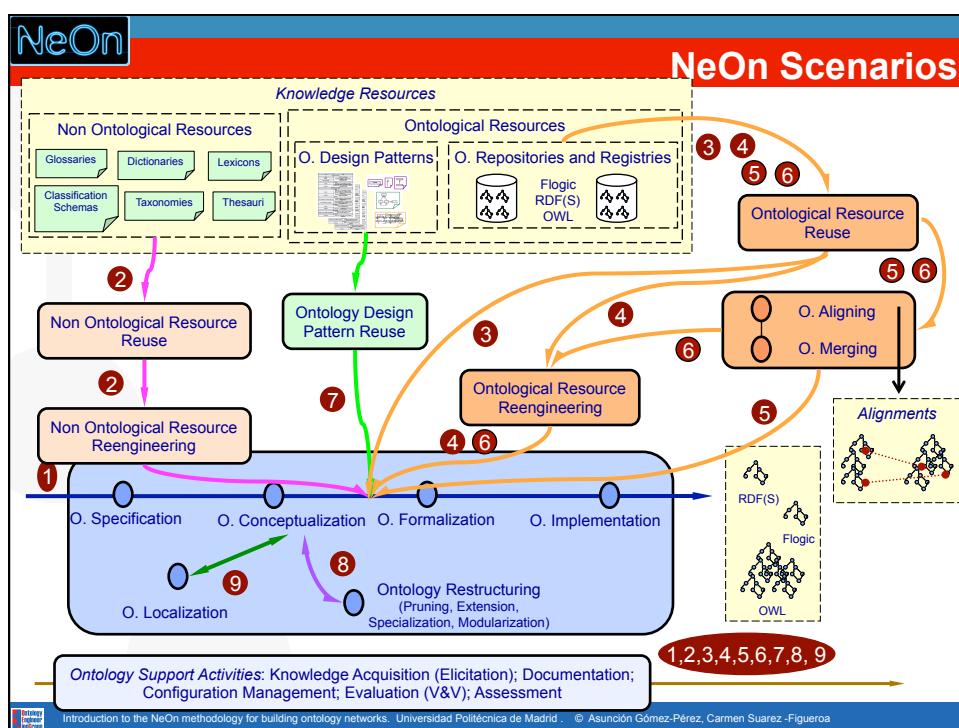
**Methodological Guideline:**

**Process and Activity Description:**  
General Introduction  
Filling Card  
Workflow Examples

**Processes and Activities Covered:**

- Ontology Requirements Specification
- Scheduling
- Reuse of General Ontologies
- Reuse of Domain Ontologies
- Reuse of Ontology Statements

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa



**Scenarios**

The NeOn Methodology framework: A scenario-based methodology for ontology development. Suárez-Figueroa , Mari Carmen | Gómez-Pérez , Asunción | Fernández-López , Mariano. Journal: Applied Ontology, vol. 10, no. 2, pp. 107-145, 2015

1. Building ontology networks from scratch without reusing existing resources.
2. Building ontology networks by reusing and reengineering non ontological resources.
3. Building ontology networks by reusing ontologies or ontology modules.
4. Building ontology networks by reusing and reengineering ontologies or ontology modules.
5. Building ontology networks by reusing and merging ontology or ontology modules.
6. Building ontology networks by reusing, merging and reengineering ontologies or ontology modules.
7. Building ontology networks by reusing ontology design patterns.
8. Building ontology networks by restructuring ontologies or ontology modules.
9. Building ontology networks by localizing ontologies or ontology modules.

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

**NeOn Methodology**

**Framework: NeOn Methodology for Building Ontology Networks**

**NeOn Glossary of Processes and Activities**

**Scenarios for Building Ontology Networks**

**Scenario Description:**  
Assumptions  
Prerequisite resources  
Sequence of processes and activities  
Main outcomes

**Set of Ontology Network Life Cycle Models**

**Waterfall Model**

**Iterative-Incremental Model**

**Methodological Guideline:**

<b>Process and Activity Description:</b> General Introduction Filling Card Workflow Examples	<b>Processes and Activities Covered:</b> Ontology Requirements Specification Scheduling Reuse of General Ontologies Reuse of Domain Ontologies Reuse of Ontology Statements
---	--

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

**Framework: NeOn Methodology for Building Ontology Networks**

## Life Cycle Models for Ontology Networks

- **Ontology network life cycle model:** a model to describe how to develop (and maintain) an ontology network project.

**Set of Ontology Network Life Cycle Models**

**Waterfall Model**

**Iterative-Incremental Model**

- The **ontology life cycle** is the specific sequence of activities that the ontology practitioners carry out for developing an ontology.

[The NeOn Methodology framework: A scenario-based methodology for ontology development.](#) Suárez-Figueroa , Mari Carmen | Gómez-Pérez , Asunción | Fernández-López , Mariano. Journal: Applied Ontology, vol. 10, no. 2, pp. 107-145, 2015

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

**NeOn Methodology**

## Framework: NeOn Methodology for Building Ontology Networks

**NeOn Glossary of Processes and Activities**

**Scenarios for Building Ontology Networks**

**Scenario Description:**  
Assumptions  
Prerequisite resources  
Sequence of processes and activities  
Main outcomes

**Set of Ontology Network Life Cycle Models**

**Waterfall Model**

**Iterative-Incremental Model**

**Methodological Guideline:**

<b>Process and Activity Description:</b> General Introduction Filling Card Workflow Examples	<b>Processes and Activities Covered:</b> <ul style="list-style-type: none"> <li>▪ Ontology Requirements Specification</li> <li>▪ Scheduling</li> <li>▪ Reuse of General Ontologies</li> <li>▪ Reuse of Domain Ontologies</li> <li>▪ Reuse of Ontology Statements</li> </ul>
---	---

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid . © Asunción Gómez-Pérez, Carmen Suárez-Figueroa

**NeOn**

## NeOn Methodology

Process and activities covered:

- Ontology Specification
- Scheduling
- Non Ontological Resource Reuse
- Non Ontological Resource Reengineering
- Reuse General Ontologies
- Reuse Domain Ontologies
- Reuse Ontology Statements
- Reuse Ontology Design Patterns

All processes and activities are described with:

- A filling card
- A workflow
- Examples

<b>Process or Activity Name</b>	
Definition	
Goal	
Input	Output
Who	
When	

Introduction to the NeOn methodology for building ontology networks. Universidad Politécnica de Madrid. © Asunción Gómez-Pérez, Carmen Suárez-Figueroa