



# BIOVOICES

CONNECTING BIO-BASED FORCES  
FOR A SUSTAINABLE WORLD

[www.biovoices.eu](http://www.biovoices.eu)



# CONNECTING BIO-BASED FORCES FOR A SUSTAINABLE WORLD



This Project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 774331

CONTACT US  
[info@biovoices.eu](mailto:info@biovoices.eu)



CIVITTA

LOBA



Minerva

asebio

I.C.L.E.I  
Local Governments  
for Sustainability



# BIOVOICES

CONNECTING BIO-BASED FORCES  
FOR A SUSTAINABLE WORLD

## DELIVERABLE 5.3

# Population of the BIOVoices multi-stakeholder on-line platform with contents Report (first version)

### DELIVERABLE TYPE

Other

### MONTH AND DATE OF DELIVERY

Month 11, November 2018

### WORK PACKAGE

WP 5

### LEADER

Consiglio Nazionale delle Ricerche

### DISSEMINATION LEVEL

Public

### AUTHORS

Patrizia Grifoni, Fernando Ferri, Noemi Biancone, Chiara Bicchielli, Alessia D'Andrea, Arianna D'Ulizia, Tiziana Guzzo

---

**Programme**  
H2020

**Contract Number**  
774331

**Duration**  
36 Months

**Start**  
January 2018



## PEER REVIEWS

NAME	ORGANISATION
FERNANDO FERRI	CNR
ROBERT MISKUF	PEDAL
IULIANA MIHALCEA	FRONTIER
CHIARA POCATERRA	APRE
LIISA VIPP	CIVITTA
DANIEL CLAUDIO CEREZO	ASEBIO

## REVISION HISTORY

VERSION	DATE	REVIEWER	MODIFICATIONS
V1	15/11/2018	FERNANDO FERRI	TEXT REVIEW
V2	010/12/2018	PATRIZIA GRIFONI	MODIFICATIONS

**Disclaimer:**The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained herein.





## INDEX OF CONTENTS

1. Introduction .....	5
2. Definition of ontology and the BIOVOICES Ontology structure .....	6
3. Engaging people, sharing knowledge and experiences .....	17
3.1 Community engagement methods .....	18
4. Sharing contents process WITHin the BIOVOICES community .....	20
4.1 Guidelines for sharing materials: Events .....	21
4.2 Guidelines for sharing materials: Mobilisation and Mutual Learning discussion groups .....	23
4.3 Guidelines for sharing materials: Bio-based products .....	24
4.4 Guidelines for sharing materials: News .....	24
4.5 Guidelines for sharing materials: Documents .....	24
4.6 Guidelines for sharing materials: Newsletter .....	25
5. Conclusion .....	25
6. References .....	25
7. Appendix I - Ontology in Rdf .....	28

## INDEX OF FIGURES

<i>Figure 1: The Ontology definition phases (elaborated by CNR-IRPPS) .....</i>	<i>5</i>
<i>Figure 2: The BIOVOICES ontology graph (elaborated by CNR-IRPPS) .....</i>	<i>7</i>
<i>Figure 3: The Quadruple Helix in Palomo B. Et al. (2018) (Source) .....</i>	<i>15</i>

# 1. INTRODUCTION

In order to share knowledge emerging from the different activities of the BIOVOICES project, from other experiences and projects and, to establish a large community, it is necessary to define a “*common vocabulary*” used by people that participate in BIOVOICES community using the BIOVOICES social platform.

This deliverable “Population of the BIOVOICES multi-stakeholder on-line platform with contents Report (first version)” contains the ontology of concepts related to the bio-based products and bio-economy field, embedded in the BIOVOICES social platform. This ontology contains concepts used in the project and coming from: 1) the activities of the “WP3 – Creation of the Framework” and in particular form task “T3.1 - Review on barriers and opportunities for the development of bio-based value chains”, 2) the Mutual Mobilization Learning Workshops (MML) and events organised by the consortium of the BIOVOICES project involving the stakeholders (from the quadruple helix) and, 3) the other activities in the platform.

The ontology will evolve during the project life and, new versions will integrate the ontology provided in this deliverable according to the concepts and their relationships emerging during the project activities and contents sharing among the BIOVOICES community members. For this reason this document describes how people can share contents and populate the platform and, how these activities are part of the phases that produce the ontology evolution during the project, and consequently the deliverable “D5.4 – Population of the BIOVOICES multi-stakeholder on-line platform with contents Report: second version” at month 36. The ontology will be evolved during the project activities according to the discussion involving the BIOVOICES consortium and the engaged stakeholders (see Figure 1).

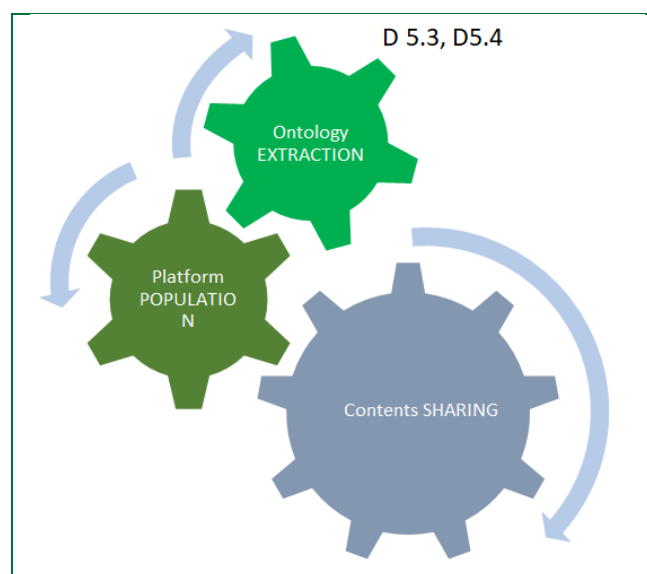


Figure 1: The Ontology definition phases (elaborated by CNR-IRPPS)

Content sharing within the BIOVOICES community is necessary for populating the platform and, concepts coming from contents uploaded on the platform with their relationships are formalised in the ontology. This document, indeed, contains sections that suggest the users of the BIOVOICES social platform (<https://www.biovoices-platform.eu>) how to populate it, engaging people in sharing information. The remainder of the document is structured as follows. Section 2 provides an informal description of the ontology using natural language. A formalised representation is given in Appendix I. Section 3 is related to the engagement and, section 4 describes some guidelines that can be followed to participate in the BIOVOICES community populating the platform. Finally, Conclusions and References complete this document.

## 2. DEFINITION OF ONTOLOGY AND THE BIOVOICES ONTOLOGY STRUCTURE

First of all, we introduce some definitions of “ontology” given in the literature. Gruber (Gruber, 1993) defined ontology as “a specification of a conceptualization”. Guarino et al., (2009) explain that there are two meanings when we speak of ontology. The first one refers to “a philosophical discipline, namely the branch of philosophy which deals with the nature and structure of reality”. The second meaning refers to “an ontology as a special kind of information object or computational artefact”.

In particular, the activities of the BIOVOICES project refer to the second meaning of ontology. Building an ontology requires to “analyze relevant entities and organize them into concepts and relations” (Guarino et al., 2009). Indeed, in BIOVOICES the ontology organises and classifies concepts of information collected and shared in the BIOVOICES social platform and relationships between these concepts, facilitating any activity of searching, finding and extracting of any information of interest.

This section describes the key set of concepts that organise information in the BIOVOICES social platform and their relationships (i.e. the ontology) using natural language. Note that this ontology has been formalised using the W3C Web Ontology Language (OWL), which “is a Semantic Web language designed to represent rich and complex knowledge about things, groups of things, and relations between things” (<https://www.w3.org/OWL/>). The OWL formalisation has been specified on the RDF (Resource Description Framework) structure (<https://www.w3.org/TR/rdf-nt/>).

The formalization of the ontology is presented in Appendix I and, Figure 2 gives an overview of its graph, which can be better visualised and accessible on-line at:

*<https://www.biovoices-platform.eu/ontology/>*

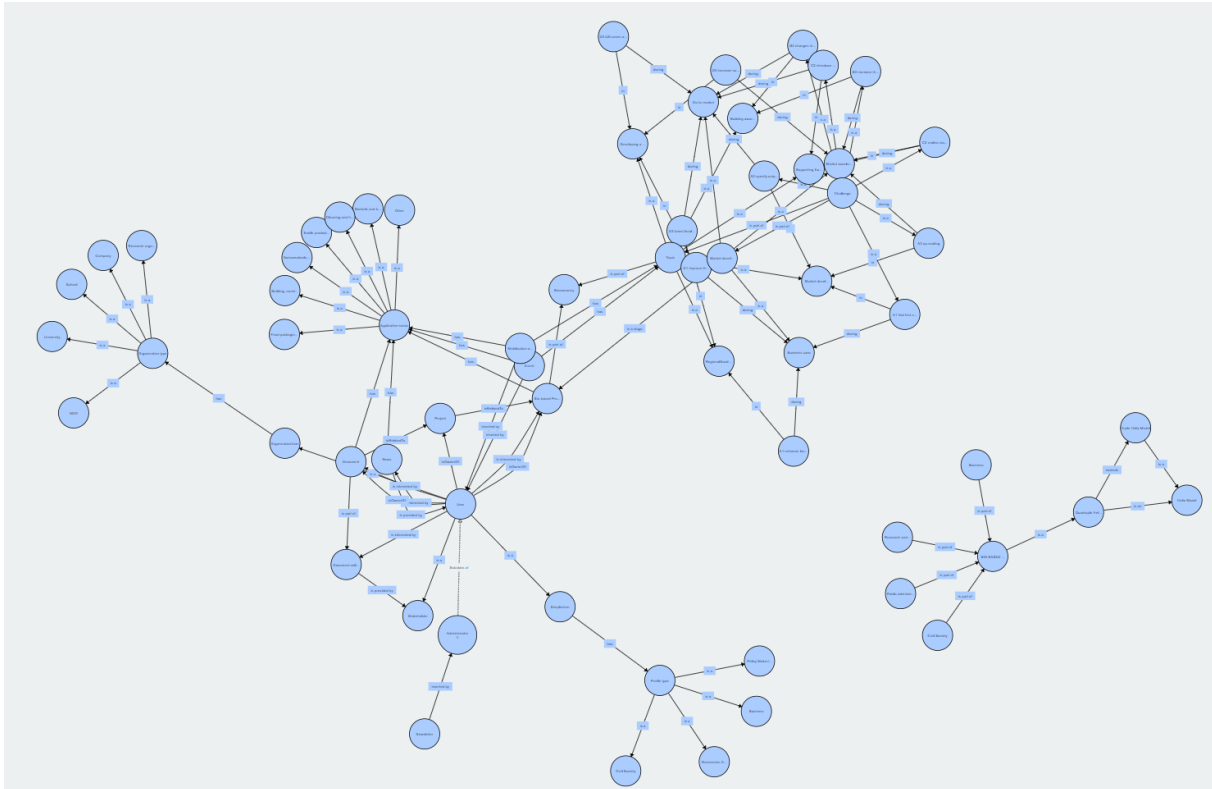


Figure 2: The BIOVOICES ontology graph (elaborated by CNR-IRPPS)

The description in Natural language of the ontology's concepts is provided below, while their formalization in RDF is provided in Appendix I.

### Bio economy

**Definition 1:** Bio-economy is about "the production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products and bio-energy. Its sectors and industries have strong innovation potential due to their use of a wide range of sciences, enabling and industrial technologies, along with local and tacit knowledge."

**Definition 2:** Bio-economy covers all sectors and systems that rely on biological resources (animals, plants, micro-organisms and derived biomass, including organic waste), their functions and principles. It includes and interlinks: land and marine ecosystems and the services they provide; all primary production sectors that use and produce biological resources, i.e. agriculture, forestry, fisheries and aquaculture; and all economic and industrial sectors that use biological resources and processes to produce food, feed, bio-based products, energy and services. It cuts across these sectors and systems, interlinking them and creating synergies. While biotechnology is at the heart of bio-based processes, health biotechnology and biological medicines are not included in the bio-economy definition.

**Source 1:** EC, 2012, Innovating for Sustainable Growth - A Bio-economy for Europe

**Source 2:** EC, 2018, A sustainable Bioeconomy for Europe: strengthening the connection between economy, society and the environment, [https://ec.europa.eu/research/bioeconomy/pdf/ec\\_bioeconomy\\_strategy\\_2018.pdf#view=fit&page mode=none](https://ec.europa.eu/research/bioeconomy/pdf/ec_bioeconomy_strategy_2018.pdf#view=fit&page mode=none)



Relationships:

Notes:

### Bio-based Product

Definition: “Bio-based products are wholly or partly derived from materials of biological origin, excluding materials embedded in geological formations and/or fossilised. In industrial processes, enzymes are used in the production of chemical building blocks, detergents, pulp and paper, textiles, etc. By using fermentation and bio-catalysis instead of traditional chemical synthesis, higher process efficiency can be obtained, resulting in a decrease in energy and water consumption, and a reduction of toxic waste. As they are derived from renewable raw materials such as plants, bio-based products can help reduce CO2 and offer other advantages such as lower toxicity or novel product characteristics (e.g. biodegradable plastic materials)” (1). An bio-based product is specified according to the following properties:

- Product Title
- Product SubTitle
- Description
- Product Producer or Researcher
- Product author
- Useful websites
- Images (logo, raw material, final product)

Source 1: EC, Bio-based products, [http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products\\_en](http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products_en)

Source 2: BIOVOICES project

Relationships:

*Is\_part\_of* the Bio-economy

*Has an* Application sector

Notes:..

### Application sector (of Bio-products)

Definition: The application sector identifies the category of use of a bio-based product among the listed ones:

- Cleaning and hygiene, personal care and cosmetics, health and biomedical
- Textile products, clothing, sports and toys
- Food packaging, disposable tablewear
- Biofuels and bioenergy
- Building, construction and restoration, paintings, decorations and furniture
- Nutraceuticals, environmental bioregulation and biological sensors
- Other

Source: BIOVOICES project

Relationships:

Notes: This is a filter for the Events, the Mobilisation and Mutual Learning discussion groups, Bio-



based Products and Documents in the on-line libraries.

### Market Development phase (of a bio-based product)

Definition: The Market Development phase (of a bio-based product) identifies the 3 stages necessary to go to the market, starting from 95% mature products. The three phases are:

- Business case: Product is 95% mature and becomes a business case
- Go-to-market: Mature products and early market penetration
- Market acceleration: Market increases and new users groups are reached

Source: BIOVOICES project

Relationships:

*Is\_a\_stage* of the Bio-based product

Notes: This is a filter for products

### Topic

Definition: we define “Topic”, as a group of similar challenges. The set of values for topics is:

- Market/business development
- Consumers’ awareness and information, trust building
- Supporting strategies, regulatory frameworks legislation and standards at EU and national levels
- Supporting environment (infrastructures, intermediaries, new business opportunities)
- Regional/Local development
- Knowledge sharing and education

Source: BIOVOICES project

Relationships:

*Is\_part\_of* Bio-economy

Notes:..

### Challenge

Definition1: A challenge is something new and difficult which requires great effort and determination (source 1)

Definition2: A challenge in BIOVOICES is a core and new question to be addresses and difficult which requires great effort and determination in the framework of the specified topics . A set of 12 challenges has been adopted in BIOVOICES and it consists of:

- A1 – Find first customers
- A2 – Specify Unique Selling Points (USP)
- A3 – Up-scaling
- B2 – Changes in purchase habits
- B3 – Increase the Adoption
- C2 – Introduce EU and national incentives
- C3 – Release standardization
- D1 – Improve the ecosystem to enhance business cases
- D2 – B2B users as frontrunners
- D3 – Increase sustainable 2G feed stock for b2b products
- E1 – Enhance local bio-economy strategies & action plans
- E2 – Boost local deployment



(source 2)
<u>Source 1</u> : Collins Dictionary, <a href="https://www.collinsdictionary.com/dictionary/english/challenge">https://www.collinsdictionary.com/dictionary/english/challenge</a> <u>Source 2</u> : BIOVOICES project
<u>Relationships</u> : <i>Is_part_of</i> a Topic <i>Is_part_of</i> a Market development phase
<u>Notes</u> : This can be a filter for products and the “Mobilisation and Mutual Learning discussion groups”

<b>Events</b>
<u>Definition</u> : “Event” identifies a virtual space where the BIOVOICES community members can organise and manage events (face2face and virtual) in an established date. They can invite participant, can ask to the invited people to register themselves, can share the agenda and documents describing the outcomes of the event, can organise for a pool, share videos, and organize video streaming. An event is specified according to the following properties: <ul style="list-style-type: none"><li>• Title</li><li>• Description</li><li>• Organiser</li><li>• Start date</li><li>• End date</li><li>• Timezone</li><li>• Event type (International, Local)</li><li>• Event location (Web, Real place)</li><li>• To be shared in the BIOVOICES website (available only to some administrators)</li><li>• Notes</li><li>• Administrator</li></ul>
<u>Source</u> : BIOVOICES project
<u>Relationships</u> : <i>Has_a</i> Topic <i>Has_a</i> Challenge <i>Has_an</i> Application Sector <i>Is_shared</i> by User
<u>Notes</u> :..

<b>Mobilisation and Mutual Learning discussion groups</b>
<u>Definition</u> : the “Mobilisation and Mutual Learning discussion groups” area identifies a space where the BIOVOICES community member can start and manage discussions related to the identified topics. Discussions can be done exchanging posts or organising virtual meetings; participants can exchange documents, pictures. A calendar is also available to organise the next steps of the discussion and collaboration. A “Mobilisation and Mutual Learning discussion groups” is specified according to the following properties: <ul style="list-style-type: none"><li>• Title</li></ul>

- Description
- Start date
- Type (Closed, Public, Private)
- Administrator

Source: BIOVOICES project

Relationships:

*Has\_a* Topic

*Has\_a* Challenge

*Has\_an* Application Sector

*Is\_shared by* User

Notes:..

### News

Definition: News indicates “a report of recent events” (3). The source of the news could be other websites or can be provided by the member of the BIOVOICES community. In case of news from other website the properties are:

- Title of the News
- Link to the Website (source)
- Application Sector

In case of news provided by the community members the properties are:

- Title of the News
- SubTitle of the News
- Text
- Miniature picture for the news
- Gallery of pictures (optional)

Source: (3) Webster dictionary, (4) BIOVOICES project

Relationships:

*Has\_an* Application Sector

*Is\_provided by* User

Notes:..

### Administrator

Definition: An administrator is a user that manages the Newsletter of the BIOVOICES project on the platform. These administrators are CNR and LOBA.

Source: BIOVOICES project

Relationships:

*Is a* User

Notes:..

### Newsletter

Definition: A Newsletter is a Periodic publication of the BIOVOICES project, circulated out to its subscribers, who will be also the members of the platform. A newsletter will be inserted in the

platform by administrators, i.e. LOBA and CNR, that are enabled to play this role. The newsletter can be retrieved by users in the platform, and is visualised in the Website of the project. Its properties are:

- Title
- Description
- File

Source: BIOVOICES project

Relationships:

*Is\_inserted by* Administrator LOBA, CNR

Notes: The Newsletter of the BIOVOICES project is uploaded in the platform; it is possible to retrieve them as documents by searching. They are directly available on the website of the project (<https://www.biovoices.eu>)

### Documents collection

Definition: A “Documents collection” is a repository that organises a set of documents. It is specified by a “Title”.

Source: BIOVOICES project

Relationships:

*Is\_provided by* User

Notes:..

### Document

Definition: A “Document” is a file collected in a “Document collection” in the BIOVOICES social platform and it is described according to the following properties:

- Title
- Subtitle
- Abstract
- Description
- Year of publication
- Author
- Owner
- Owner type
- Keywords
- Document type
- File

Source: BIOVOICES project

Relationships:

*Is\_part\_of* a Documents Collection

*Has\_a* Topic

*Has\_a* Challenge

*Has\_an* Application sector

Notes:..

### Project

**Definition1:** A research and innovation project is an investigation, usually using scientific methods, to achieve defined objectives that produce an innovation.

**Source:** definition extended starting from the definition given at (<http://dbpedia.org/ontology/ResearchProject>)

**Relationships:**

**Notes:..**

### Stakeholder

**Definition:** A person, group or organization that has interest or concern in an organization. It is described according to the following properties:

Organisation name

Organisation website

Stakeholder type (Public administration, Research and education, Business community, Civil society)

Description of activity

Contact information (Name, Family Name, E-mail, Phone number, address)

Countries of activity

**Source:** <http://www.businessdictionary.com/definition/stakeholder.html>

**Relationships:**

**Notes:..**

### User

**Definition:** A person or organisation who is member of the BIOVOICES social platform and a member of the BIOVOICES community.

A User can be a simple user, i.e. a person, or an organization, i.e. a stakeholder registered in the BIOVOICES social platform.

**Source:** BIOVOICES project

**Relationships:**

*Is\_a Stakeholder*

*Is\_a member of the BIOVOICES social platform*

*Is\_interested by Newsletter*

*Is\_interested by News*

*Is\_interested by Documents Collection*

*Is\_interested by Documents*

*Is\_interested by Bio-based products*

*Is\_owner of Bio-based products*

Documents

**Notes:..**

### Helix Model

**Definition:** Theoretically, the helix model refers to structures and processes where the diversity of agents are arranged into “fluid and heterogeneous innovation networks” (Carayannis and Campbell 2011, p. 342) in which innovations are conceived to be stimulated by a co-creation process among the actors (Füzi 2013) and where a “fluid movement of knowledge” takes place (MacGregor et al. 2010, p. 186).

Source:

Carayannis, E. G., & Campbell, D. F. (2011)  
Füzi, A. (2013)  
MacGregor, et al. (2010)

Relationships:

Notes:..

**Triple Helix model**

Definition The concept of the Triple Helix of university-industry-government relationships interprets the shift from a dominating industry-government dyad in the Industrial Society to a growing triadic relationship between university-industry-government in the Knowledge Society. (Source 1). Indeed the triple helix implements the helix model referring to government, research and industry. In particular, “The Triple Helix thesis is that the potential for innovation and economic development in a Knowledge Society lies in a more prominent role for the university and in the hybridisation of elements from university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge. This vision encompasses not only the creative destruction that appears as a natural innovation dynamics but also the creative renewal that arises within each of the three institutional spheres of university, industry and government, as well as at their intersections.” (Source2 )

Source 1: Ranga, M., & Etzkowitz, H. (2013)

Source 2: Carayannis, E. G., & Campbell, D. F. (2011)

Relationships:

*Is\_a* Helix model

Notes:..

**Quadruple Helix model**

Definition: “The Quadruple Helix contextualizes the triple helix by adding as the fourth helix *civil society* and the *media- and culture-based public*. This is the understanding that additional perspectives must be added to comprehend innovation in the unfolding twenty-first century. In fact, democracy frames and changes our conditions of innovation. The TH is not really sensitive enough for this democratic additionality, whereas the Quadruple Helix reflects on this” (Source1)

In particular, the Quadruple Helix is “A new paradigm based on a Quadruple Helix Model where government, industry, academia and civil participants work together to co-create the future and drive structural changes far beyond the scope of what any one organization or person could do alone. This model encompasses also user-oriented innovation models to take full advantage of ideas' cross-fertilisation leading to experimentation and prototyping in real world setting.” (Source 2)

Source 1: Woo Park H. (2014)

Source 2: Digital Agenda, <https://ec.europa.eu/digital-agenda/en/growth-jobs/open-innovation>

Relationships:

*Is\_a* Helix model

Extends Triple Helix model

Notes:..

**BIO-BASED Quadruple Helix model**

**Definition:** The BIO-BASED Quadruple Helix model contextualizes Public administration, Business, Research and education, and Civil society for Bio-economy. In particular, Public administration, Business, Research and education and Civil society are characterised as specified in figure 3:

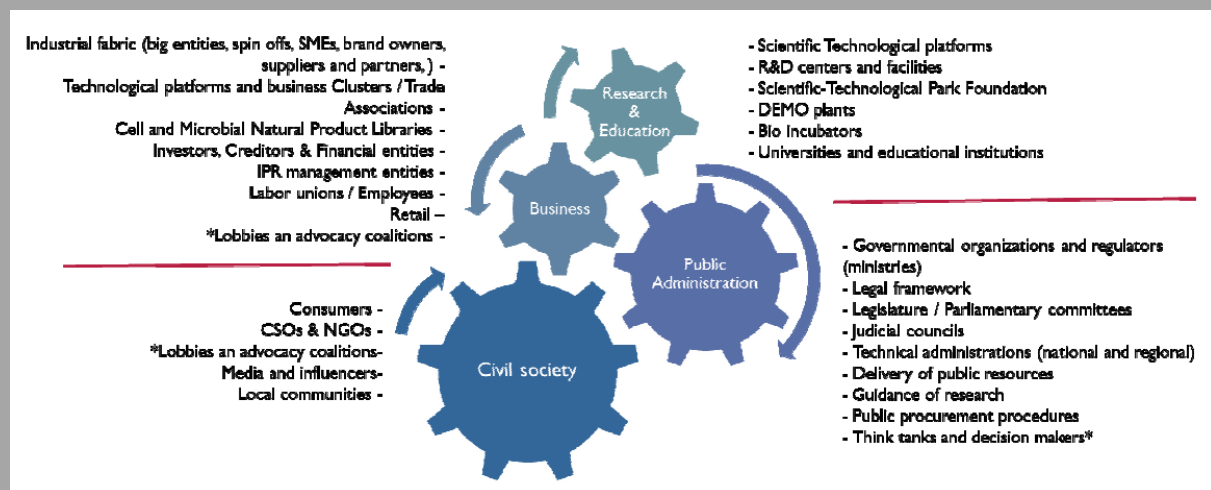


Figure3: The Quadruple Helix in Palomo B. Et al. (2018) (Source)

“Public administration have to guide research, provide resources (through research programmes) as well as to help create legitimate and feasible market opportunities.

The role of businesses is both to provide feestock, to develop, innovate and sell new products and to consider their corporate sustainability to contribute to a circular bio-based economy. The provision of feedstock and improved market uptake could be relevant subjects for mutual cooperation with Public administration and civil society to enhance the circular bio-based economy” . ...

“Public administration can contribute at creating improved reputation of bio-based products by better cooperation with CSOs and academia, while more market opportunities could be created by setting defaults that enhance the circular bio-based economy compared to the fossil-based economy (legislation), by acting as a pump-priming customer of bio-based products, and by providing economic incentives (via taxes or subsidies)”. (Greet Overbeek & Anne-Charlotte Hoes 2018).

Source 1: (Palomo B. et Al. 2018) and (Greet Overbeek & Anne-Charlotte Hoes 2018)

Relationships:

*Is\_a* Quadruple Helix model

Notes:.. “A point of critique is that the triple and quadruple helix models are developed in western countries (Yuzhuo Cai, 2013). Therefore these models are mainly known and used in western Europe (Overbeek et al., 2016). In central and eastern European countries there is less experience with these models with mainly first and double helix models with research actors in existence. Therefore, one of the main priorities to start with a bio-based economy is to improve the governance structure with more actors (BIOEAST, 2017) and to consider the contribution of every other actor, i.e. policy makers, business and civil society. So far, it is not known whether these countries also have an

appropriate agenda in mind” (Greet Overbeek & Anne-Charlotte Hoes 2018).

### Business

Definition:

BIOVOICES defines Business any stakeholder representative of Industrial fabric (big entities, spin offs, SMEs, Bran owners, suppliers and partners), Technological platforms and business Clusters /Trade Asociacion, Cell and Microbial Natural Product Libraries, Investors, Creditors & Financial entities, Labor unions/Employees, Retail, Lobbies an advocacy coalition

Source: BIOVOICES project, (Beatriz Palomo Et al. 2018)

Relationships:

*Is\_part\_of* Bio-based Quadruple Helix model

Notes:..

### Research and Education

Definition:

BIOVOICES defines Research and education any stakeholder representative of Scientific technological platforms, R&D centres and facilities, Scientific-Technological park foundation, DEMO plants, BIO Incubators, Universities and educational institutions

Source: BIOVOICES project, (Palomo B. et Al. 2018)

Relationships:

*Is\_part\_of* Bio-based Quadruple Helix model

Notes:..

### Civil Society

Definition:

BIOVOICES defines Civil society any stakeholder representative of Consumers, CSOs & NGOs, Lobbies an advocacy coalitions, Media and influencers, Local communities

Source: BIOVOICES project, (Palomo B. et Al. 2018)

Relationships:

*Is\_part\_of* Bio-based Quadruple Helix model

Notes:..

### Public administration

Definition:

BIOVOICES defines Public administration any stakeholder representative such as Governmental ORGANISATION and regulators (ministries), Legal framework, Legislature/ Parliamentary committees, Judicial councils, Technical administrations (national and regional), Delivery of Public resources, Guidance of research, Public procurement procedures, Think tanks and decision makers.

Source: BIOVOICES project, (Palomo B. et Al. 2018)



**Relationships:***Is\_part\_of* Bio-based Quadruple Helix model**Notes:..**

### 3. ENGAGING PEOPLE, SHARING KNOWLEDGE AND EXPERIENCES

This section deals with engagement that is a process strictly related to the aim of this deliverable, which is the population of the BIOVOICES social platform. To populate the platform, indeed, it is necessary engaging people, as well as existing and emerging communities, in the BIOVOICES social platform, in order to define, co-define and share information, co-organise events or discussions, work building a common knowledge, and improve a collective awareness related to bio-products and bio-economy with the participation of stakeholders from the quadruple helix.

In the literature “community engagement” has different meanings. For this reason it is very important to clearly explain what “community engagement” means within the BIOVOICES project.

In (Consult Australia, 2015) “community engagement” is defined as the process of involving people in the decisions that affect them. Engagement is considered to be “the process by which government, organisations, communities and individuals connect in the development and implementation of decisions that affect them”. Users’ engagement enables producing better outcomes than using other approaches, as the involved parties identify the concerns, opportunities, risks, options and potential solutions that surround an issue/topic, leading to more informed decision-making process according to the different points of view and making more responsible the process itself.

The concept of engagement deeply characterizes the research and innovation processes, as it is one of the axes identified by European Commission (EC) for Responsible Research and Innovation, i.e. Public Engagement. EC defines Public engagement (PE) as an issue for “co-creating the future with citizens and civil society organisations, and also bringing on board the widest possible diversity of actors that would not normally interact with each other, on matters of science and technology” (Public Engagement, EC).

Herefordshire Council (2013) produced a guide that defines engagement as “a range of interactions which are suitable for all parties involved”. In this definition there are five levels of community engagement (Herefordshire Council., 2013), i.e. simple information, consultation, involvement, collaboration, and empowerment. In BIOVOICES we consider the meaning of “engagement” according to this definition, as it is supportive with respect to the BIOVOICES social platform population activities and the need of reinforcing the BIOVOICES community. The BIOVOICES community is a community of interest that aims at including people representative of the quadruple helix. The five levels of community engagement identified have been simplified in three levels in

BIOVOICES as explained below.

Many methods can be used to engage people, and methods suggested in the BIOVOICES community are described in the next sub-section.

### 3.1 Community engagement methods

For each level of community engagement to be reached, different engagement techniques are best suited. Starting from the five levels already identified in Herefordshire Council (2013), in the BIOVOICES project we both simplify the five levels of engagement in three levels (Informing, Consulting and Collaborating) and identify the techniques used for the community engagement. This simplification is a consequence of the goal of the BIOVOICES social platform, which mainly aims to engage a wide community in a process of information, consultation and collaboration on challenges related to bio-economy and bio-products.

Table 1: Engagement phases and methods

Informing	Consulting	Collaborating
Peer2peer providing information to the other community members and all interested people and organisations to enable them to understand problems, alternatives, opportunities and solutions.	Collecting feedbacks related to the actions and activities of the BIOVOICES community members. People can access information (passive role), and should play also an active role by sharing information.	Collaboration (working in partnership) of groups of the community members to co-define contents, future actions and new projects, promote innovations and new products.
Engagement methods		
Brochures. Leaflets, News, Website of the project, Press release, Social networks (Facebook, Twitter, LinkedIn), the BIOVOICES Social platform. By accessing the BIOVOICES platform, people can access information even if they are not registered. In particular, it is possible to access information related to Events, Bio-based products info, Results from Questionnaires, Interviews and Storytelling, News, Newsletter provided by the members of the BIOVOICES community.	Questionnaires, Interviews, Storytelling, Events, e.g. Mutual Mobilisation Workshops, Focus Groups, Conferences, Meetings, etc. (virtual or face2face), shared, promoted and managed also using the BIOVOICES Social platform. For example, people registered in the platform can manage their events using the functionalities of the platform for sharing, disseminate, collect materials and discussions each time they organize an event. Some kinds of engagement like newsletter are restricted to some user categories (i.e. members of the consortium of the BIOVOICES project).	Discussions in the co-working spaces of the BIOVOICES Social platform for developing new activities aiming to address new projects, improve education and public awareness and, new ideas for new products and projects.

A short description of the engagement methods extracted from the literature and customised in the BIOVOICES community and social platform is given below.

### THE BIOVOICES SOCIAL PLATFORM

The BIOVOICES social platform enables users to decide where, when and how they want to participate for sharing information, opinions, innovative bio-based products, actions to do, improve their knowledge, collaborate.

This platform is supportive and complementary with respect to all the other methods that can be used for engaging people in the BIOVOICES community.

### INVITATION MESSAGES

Letters and e-mail messages can be sent in the early stages of engagement to provide information on the BIOVOICES community and platform. The message is addressed to the stakeholders of the quadruple helix identified by the BIOVOICES project and to the networks that each member of the consortium can reach. The message has to invite stakeholders to get joined to the BIOVOICES social platform. The message can be more effective if they are sent when an event, a new discussion, an initiative, a new document, the outcome of an initiative are available on the platform.

### PRESS RELEASE

Press release reaches large numbers of population using newspapers and other communication channels. Any press release can be shared in the platform using the News.

### NEWSLETTER

Newsletter from the BIOVOICES project periodically reach the members of the BIOVOICES community, soliciting and engaging them in activities, which continue to draw the members attention.

### QUESTIONNAIRES, INTERVIEWS AND STORYTELLING

These methods directly collect the voices, opinions, ideas, suggestions and experiences of people and stakeholders from the quadruple helix. Questionnaires can be administrated on the platform, where stakeholders provide their answers. Interviews can be done face to face or online in the platform. The results of questionnaires and interviews (with a video) can be shared in the platform (e.g. using the “Mobilisation and Mutual Learning discussion groups”). Finally, a video with a story can be registered and shared in the platform and in the social networks for sharing experiences, ideas and information.

### PICTURES AND CREATIVE ARTEFACTS

Attracting and engaging new people in the discussion on bio-products can be done in different manners. For example it is possible to organize competitions, inviting participants using the platform and asking participants to upload in the platform pictures, videos or songs or generally any creative artefact related with specific challenges decided for the competition.

### EVENTS BY MML WORKSHOPS, FOCUS GROUPS AND PARTICIPATORY METHODS

MML workshops, focus groups and events that use participatory methods allow people to discuss their ideas in an open and relaxed atmosphere. They can be designed to exchange information and discuss the strengths, weaknesses, opportunities and threats of ideas connected to the Bioeconomy, its Topics, Application sectors, Challenges, bio-based products, etc. Involved people can increase their awareness on a specific topic. Focus groups are designed to focus on specific issues. Finally some methods can be finalized to produce a strategic action plan. The BIOVOICES social platform will support the events organization, its management and sharing the follow-up and outcomes.

### STREAMING EVENTS (CONFERENCES IN STREAMING)

Events such as conferences connected to the bio-economy can be shared in streaming for maximising knowledge sharing with the stakeholder of the quadruple helix. The BIOVOICES social platform supports the events organization, enabling the streaming of conferences.

### SOCIAL NETWORKS

Facebook, LinkedIn, Twitter and other social networks can be used for wide dissemination actions as a first level of community engagement, informing them on new bio-based products, initiatives, discussions, events, etc.. For this purpose the BIOVOICES social platform enables sharing events short info and news using social networks.

### CO-CREATION

The co-creation process is the higher level of the engagement process. This is due to the fact that co-creation implies the collaboration of participants, who develop the feeling of belonging to the working group/community. Co-creation has a wealth of applications ranging from evaluating ideas, creating designs and concepts to design prototypes of products (Co-creation with Online Communities, 2016). This can be done, for example, involving stakeholders in creative competitions, or asking for sharing contents and discussion on specific challenges, reinforcing the feeling of belonging to a specific community.

According to a study conducted by Kaasinen et al. (2013), co-creation can be supported by inspiring physical or virtual spaces where users, designers and other actors can meet informally and as equals. In this study, the authors defined a set of requirements for the co-creation spaces, underlining that co-creation are more engaging when it is closely connected to the everyday life, when there are low barriers for participating. Co-creation fits personal goals and interests and encourages creativity and informal interaction, and continuous results and iterative development is supported.

The BIOVOICES social platform facilitates and fosters informing, consulting and collaborating processes using different functionalities and mainly the Mobilisation and Mutual Learning discussion groups. Online co-creation enables an organizer to be engaged in a continuous and distributed exchange of innovation related information with external actors.

## **4. SHARING CONTENTS PROCESS WITHIN THE BIOVOICES COMMUNITY**

Sharing contents in the BIOVOICES platform will enrich the discussion. Concepts contained in these contents and their relationships will be selected and organised for enriching the ontology defined in this document. New versions of the ontology will integrate the current one and will be included in the deliverable that provides the evolution of the current ontology. Some guidelines for sharing contents are described in the next sub-sections.

## 4.1 Guidelines for sharing materials: Events

An Event can be of different types:

- a face2face event,
- a virtual event,
- a blended event.

The BIOVOICES community can manage and share information and documents of any type of event in the BIOVOICES social platform. These events are one of the engaging initiatives that can reinforce the community and contribute to populate the platform by sharing information and building a common knowledge.

Some guidelines that specify the steps to follow for sharing information and materials on on-line Events in the BIOVOICES platform (e.g. a Mutual Mobilization Learning workshop) can be useful in order to better organise information and to make the shared information clearer and easier to be accessed. Each member of the community registered in the platform can populate the platform in the preparation, during and in the follow-up phases of each event.

### Preparation

In the preparation phase any organiser can create a new event in the BIOVOICES social platform. Once the event has been created the organiser can:

- Upload the agenda,
- Share information of the event in the social networks (Facebook, LinkedIn, Twitter),
- Send the invitation for the event to the participants by messages to the members of the community or by e-mail also to people not already included in the community,
- Collection-line the participants' registrations,
- Collect the agreement on the Informed consent from people who will attend the event
- Upload any engaging material before the event which provides information useful for the discussion (preliminary documents, videos, etc.).

Any *other community member* can:

- Be notified about the event,
- Read the agenda and any other document preparatory for the event,
- Get registered as participant in the event,
- Provide documents, links to videos or other website (when required by the organisers).

All the previous specified steps can be done in face2face, virtual and blended meetings.

## During

*During the event the organisers can:*

- Create a live-stream that enables to share the speaker's presentations on-line with people that cannot attend locally the event (remotely connected participants) (this requires a wide bandwidth).
- Create a live-stream for participants from different locations that can discuss remotely. More than one streaming can be organised (this requires a wide bandwidth). This can be useful for virtual or blended events.
- Register videos, take pictures, collect materials to be used for the follow-up.

## Follow-up

*After the event the organisers can:*

- Upload presentations if they were not already shared during the event.
- Upload pictures, videos and other materials taken and collected during the face2face event,
- Upload documents elaborated after the event that are its outcomes (for example the report which synthesise the results of the event, for example the result of a Mutual Mobilization learning workshop),
- Ask people that attended the event to fill-in on-line a questionnaire for the event assessment,
- Send a message or an email to all participants, to notify that the outcomes from the event are available on-line.

*Each participant can*

- Visualise any material available for the event,
- Provide comments in the chat, for proposing new initiatives connected to the event, etc.,
- Provide other documents, share videos or links,
- Ask for clarification,
- Etc..

*When organising a workshop (MML workshops, Focus Groups, etc.) within the project or in activities with other communities related to the bio-economy and bio-based products each member of the BIOVOICES consortium, can create an event on the platform, managing it according to the steps suggested before.*

Other stakeholders from the quadruple helix engaged during the BIOVOICES activities will be explicitly invited to actively participate in the BIOVOICES community using the platform in their activities related to the bio-economy and bio-based products for organising their events and managing them for the preparation, during and the follow-up of the event.

## 4.2 Guidelines for sharing materials: Mobilisation and Mutual Learning

Members of the BIOVOICES community can open a public or a restricted discussion on a specific issue or challenge, or discuss for planning or managing activities related to a project or for a specific group of discussion (such as for example the discussion which involve civil society organizations, policy makers and any other stakeholder of the quadruple helix).

The discussion and activities managed in this area are connected to a challenge or objectives of the stakeholders involved in and they usually do not address a specific event. Indeed the discussion and collaboration area is not associated to a specific date.

Each member of the community can:

- Identify a challenge you are interested in, to discuss and organise your activities,
- Create a new Mobilisation and Mutual Learning discussion group, deciding organising the discussion and activities publicly, within people invites (privately), or share with all people who have the link (close),
- Start to invite people, sending messages and e-mails from the created area,
- Start the discussion on the selected challenge by sharing a presentation on the common area; other materials such as videos, etc. can be shared,
- Organise periodic live virtual meetings for building a convergence and a common understanding on the selected challenge and planning activities that the involved stakeholders can do together, by exchanging information about their initiatives, in which other can be involved or outcomes shared,
- Share opinions by chat documents or videos, participating in a synchronous or an asynchronous discussion in this area,

In the area, the creator of the discussion can share a calendar of planned activities of initiatives which are related to the challenge and discussion characterising the area. Each stakeholder can:

- share with other participants involved in the discussion area working documents (mainly for private working areas),
- share educational contents in the discussion area. In particular, documents that integrate these lessons, and Query and Answers can be shared in the space, and webinars can be organised using live virtual meetings.

*The BIOVOICES consortium can start to create Mobilisation and Mutual Learning discussion groups related to the specific challenges of interest in their national language and in English involving stakeholders engaged within the events and by e-mail and social networks in a common discussion.*

*Other stakeholders from the quadruple helix engaged during the BIOVOICES activities will be explicitly invited to actively participate in the BIOVOICES community using the platform in their activities related to the bio-economy and bio-based products for organising their Mobilisation and Mutual Learning discussion groups.*



### 4.3 Guidelines for sharing materials: Bio-based products

Information related to bio-based products can be shared.

*Members (referable to the quadruple helix) of the BIOVOICES community can share information and images related to bio-based products.*

*The BIOVOICES consortium can start sharing information related to bio-based products.*

*Other stakeholders engaged during the BIOVOICES activities will be explicitly invited to share information about the bio-based products.*

### 4.4 Guidelines for sharing materials: News

Any news, related events, new initiatives, public discussions, new legislation and rules, new products can be shared in the News section in the BIOVOICES platform.

*Both, the BIOVOICES consortium and the stakeholders from the quadruple helix who are members or the BIOVOICES community will be explicitly invited to share News. Note that some of these News (selected by the BIOVOICES consortium) will be also accessible from the BIOVOICES website (<https://www.biovoices.eu>).*

### 4.5 Guidelines for sharing materials: Documents

Any document related to the bio-economy and bio-based products have to be shared in the collection of documents in the BIOVOICES platform. Each member of the BIOVOICES community is invited to share useful documents.

*A BIOVOICES community member can:*

- Share deliverables produced by the BIOVOICES project,
- Share documents produced by any other project
- Share documents from the European Commission and other international and national authorities, policy makers and funding agencies
- Presentations
- Etc.

*The BIOVOICES consortium can start sharing presentations, documents and deliverables produced by the project (when public and approved). Any other document useful for enriching the common knowledge should be shared.*



*Other stakeholders from the quadruple helix engaged during the BIOVOICES activities will be explicitly invited to share documents that they produced in their activities or they think are useful for building a common knowledge. Any shared document has to be open.*

## 4.6 Guidelines for sharing materials: Newsletter

People from the BIOVOICES project consortium with the role of newsletter administrator in the platform (CNR and LOBA) will share in the platform the articles of the BIOVOICES project. These articles will be retrieved in the platform, by search functionalities and accessible from the project website in the section Newsletter.

## 5. CONCLUSION

This deliverable describes the ontology of the BIOVOICES social platform, obtained from the discussions held during the participatory events and meetings organised till month 11 in the BIOVOICES project and taking into account of documents and deliverables such as the deliverable D3.1 and D4.1 of the project. The ontology has been defined using OWL and it will enable the navigation and contents delivery among the users. Its integration in the platform will also enable the personalisation of access to the contents according to the user's profile.

The deliverable provides, moreover, a short description of some community engagement methods and some guidelines on the use of these methods supported by the BIOVOICES platform.

A periodical release of this report improving the current version of the ontology and the engagement guidelines will be evolved during the project life and integrated in the BIOVOICES social platform.

This evolution and the engagement actions carried out during the project life will be documented in the BIOVOICES social platform and, also in the deliverable D5.4 - Population of the BIOVoices multi-stakeholder on line platform with contents Report: second version, which will represent an evolution of this deliverable and will be included in the platform.

## 6. REFERENCES

BIOEAST (2017). *Central-Eastern European Initiative for Knowledge-based Agriculture in the Bioeconomy. Position paper*

Carayannis, E. G., & Campbell, D. F. (2011). Open innovation diplomacy and a 21st century fractal research, education and innovation (FREIE) ecosystem: building on the quadruple and quintuple helix innovation concepts and the "mode 3" knowledge production system. *Journal of the Knowledge Economy*, 2(3), 327–372, <https://link.springer.com/article/10.1007/s13132-018-0521-5>

Co-creation With Online Communities: What Are The Benefits And Risks For Companies? Part 1: Co-creation and Online Co-creation Communities. (2016). Online available at:

<http://www.brandba.se/blog/2016/1/27/co-creation-with-online-communities-what-are-the-benefits-and-risks-for-companies-part-1>

Consult Australia 2015, [https://slidelegend.com/valuing-better-engagement-consult-australia\\_59dfbff71723ddd455d45fae.html](https://slidelegend.com/valuing-better-engagement-consult-australia_59dfbff71723ddd455d45fae.html)

Digital Agenda, <https://ec.europa.eu/digital-agenda/en/growth-jobs/open-innovation>

EC, Bio-based products, [http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products\\_en](http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products_en)

EC, 2012, Innovating for Sustainable Growth - A Bio-economy for Europe

EC, 2018, A sustainable Bioeconomy for Europe: strengthening the connection between economy, society and the environment, [https://ec.europa.eu/research/bioeconomy/pdf/ec\\_bioeconomy\\_strategy\\_2018.pdf#view=fit&page-mode=none](https://ec.europa.eu/research/bioeconomy/pdf/ec_bioeconomy_strategy_2018.pdf#view=fit&page-mode=none)

Füzi, A. (2013). Quadruple helix and its types as user-driven innovation models. 11th International Triple Helix Conference, 1–27.

Guarino N., Oberle D., Staab S. (2009) What Is an Ontology?. In: Staab S., Studer R. (eds) Handbook on Ontologies. International Handbooks on Information Systems. Springer, Berlin, Heidelberg

T. R. Gruber. A translation approach to portable ontologies. Knowledge Acquisition, 5(2):199–220, 1993.

<http://dbpedia.org/ontology/ResearchProject>

<https://www.biovoices-platform.eu>

<https://www.w3.org/OWL/>

<https://www.w3.org/TR/rdf-nt/>

<https://www.biovoices-platform.eu/ontology/>

<http://www.businessdictionary.com/definition/stakeholder.html>

Herefordshire Council. (2013). Best practice community engagement techniques. Online available at [https://www.herefordshire.gov.uk/download/downloads/id/3703/guidance\\_note\\_12\\_best\\_practice\\_community\\_engagement\\_techniques.pdf](https://www.herefordshire.gov.uk/download/downloads/id/3703/guidance_note_12_best_practice_community_engagement_techniques.pdf)

Kaasinen, E., Koskela-Huotari, K., Ikonen, V., & Niemelä, M. (2013). Three approaches to co-creating services with users. Advances in the Human Side of Service Engineering, 286.

MacGregor, S. P., Marques-Gou, P., & Simon-Villar, A. (2010). Gauging readiness for the quadruple helix: a study of 16 European organizations. Journal of the Knowledge Economy, 1(3), 173–190.

Overbeek G., E. de Bakker, V. Beekman, S. Davies, Z. Kiresiewa, S. Delbrück, B. Ribeiro, M. Stoyanov & M. Vale (2016): BioSTEP Deliverable 2.3 Review of bio economy strategies at regional and national levels. [www.bio-step.eu](http://www.bio-step.eu).

Overbeek g. & Hoes A. C., Deliverable 3.1 - Synthesis of market perspectives to develop bio-based value chains, BIOVOICES project, 2018

Palomo B., Claudio D., Caro P., Deliverable 4.1 - Stakeholders' classification", BIOVOICES project, 2018

Public Engagement, EC) <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/public-engagement-responsible-research-and-innovation>

Ranga, M., & Etzkowitz, H. (2013). Triple Helix Systems: An Analytical Framework for Innovation Policy and Practice in the Knowledge Society. Industry and Higher Education, 27(4), 237–262. <https://doi.org/10.5367/ihe.2013.0165>

Woo Park H. (2014), Transition from the Triple Helix to N-Tuple Helices? An interview with Elias G. Carayannis and David F. J. Campbell, *Scientometrics* (2014) 99:203–207, DOI 10.1007/s11192-013-1124-3.

Yuzhuo Cai (10 July 2013). "Enhancing context sensitivity of the Triple Helix model: An institutional logics perspective" (PDF). Triple Helix Conference.

## 7. APPENDIX I - ONTOLOGY IN RDF

```

<?xml version="1.0"?>
<rdf:RDF xmlns="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14"
  xml:base="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:xml="http://www.w3.org/XML/1998/namespace"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
  xmlns:untitled-ontology-14="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
  <owl:Ontology rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14"/>

  <!--
  //////////////////////////////////////
  //
  // Object Properties
  //
  //////////////////////////////////////
  -->

  <!--
  http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
  14#OWLObjectProperty_046e49dc_f0a4_4ea7_af7e_d11aa80d82e7 -->

  <owl:ObjectProperty
    rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
  14#OWLObjectProperty_046e49dc_f0a4_4ea7_af7e_d11aa80d82e7">
    <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product"/>
    <rdfs:range
      rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
  14#OWLClass_ff01c326_2b0c_46a8_b12d_2e209701ce81"/>
    <rdfs:label xml:lang="it">is part of</rdfs:label>
  
```



</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_04f7ee83\_fbd2\_482c\_a799\_d574f5cfe4a4 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_04f7ee83\_fbd2\_482c\_a799\_d574f5cfe4a4">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B3\_increase\_the\_adoption"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building\_awareness\_and\_trust\_with\_interested\_business\_and\_consumers"/>

<rdfs:label xml:lang="it">in</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_055d6a3a\_5318\_49d2\_80db\_2726fc190343 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_055d6a3a\_5318\_49d2\_80db\_2726fc190343">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OrganizationUser"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization\_type"/>

<rdfs:label xml:lang="it">has</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_09c48210\_282e\_466a\_bd98\_0a89e78b5d5b -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_09c48210\_282e\_466a\_bd98\_0a89e78b5d5b">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A3\_up-scaling"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market\_development\_to\_produce\_BBPs\_for\_niche\_markets\_and\_broader\_markets"/>

<rdfs:label xml:lang="it">in</rdfs:label>





</owl:ObjectProperty>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\\_0c4934bd\\_130f\\_45eb\\_bba9\\_4e89efd686a1](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_0c4934bd_130f_45eb_bba9_4e89efd686a1) -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_0c4934bd\_130f\_45eb\_bba9\_4e89efd686a1">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Biofuels\_and\_bioenergy"/>

<rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\\_16e5b1dd\\_8dc3\\_4942\\_993e\\_c25e36626270](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_16e5b1dd_8dc3_4942_993e_c25e36626270) -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_16e5b1dd\_8dc3\_4942\_993e\_c25e36626270">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\_a1d51c57\_2d9a\_45da\_95e1\_d12657a476c3"/>

<rdfs:label xml:lang="it">is interested by</rdfs:label>

</owl:ObjectProperty>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\\_17c8015a\\_9878\\_4ff2\\_afd3\\_1cfa44103991](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_17c8015a_9878_4ff2_afd3_1cfa44103991) -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_17c8015a\_9878\_4ff2\_afd3\_1cfa44103991">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market\_development\_to\_produce\_BBPs\_for\_niche\_markets\_and\_broader\_markets"/>

<rdfs:label xml:lang="it">is a</rdfs:label>



```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1ac05f5e_d9ce_492a_a121_6ce8b61b6b42 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1ac05f5e_d9ce_492a_a121_6ce8b61b6b42">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E1_enhance_local_bioeconomy_strategies_&amp;_action_plans"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business_case"/>
```

```
<rdfs:label xml:lang="it">during</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1ba998aa_cab7_4335_9438_ad29dfd550eb -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1ba998aa_cab7_4335_9438_ad29dfd550eb">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A1_find_first_customer"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_development_to_produce_BBPs_for_niche_markets_and_broader_markets"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1c08dd85_d910_4097_9dd9_98b5ac7e5c74 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1c08dd85_d910_4097_9dd9_98b5ac7e5c74">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D2_b2b_users_as_frontrunners"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Developing_a_supporting_environment_to_improve_second_generation_(2G)_feedstock_and_more_intermediaries_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1d0cb551_0d68_4704_a457_9aeeb4455bfd -->

<owl:ObjectProperty          rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1d0cb551_0d68_4704_a457_9aeeb4455bfd">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
  <rdfs:range   rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B2_changes_in_purchase_habits"/>
  <rdfs:label xml:lang="it">is a</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1ef7790a_db30_4c1a_a9eb_699fa8cb2365 -->

<owl:ObjectProperty          rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1ef7790a_db30_4c1a_a9eb_699fa8cb2365">
  <rdfs:domain   rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_a1d51c57_2d9a_45da_95e1_d12657a476c3"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
  <rdfs:label xml:lang="it">has</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1fef3409_e510_4450_a94a_14d860c58cf1 -->

<owl:ObjectProperty          rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_1fef3409_e510_4450_a94a_14d860c58cf1">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
  <rdfs:range   rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Textile_products_clothing_sports_and_toys"/>
```



```
<rdfs:label xml:lang="it">is a</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_22bb83b0_718a_4dad_8f52_8aff957d26c0 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_22bb83b0_718a_4dad_8f52_8aff957d26c0">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_ff01c326_2b0c_46a8_b12d_2e209701ce81"/>
  <rdfs:label xml:lang="it">is part of</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_2372292b_068c_4e69_8098_2d4cd04240a3 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_2372292b_068c_4e69_8098_2d4cd04240a3">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C3_realise_standardization"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration"/>
  <rdfs:label xml:lang="it">during</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_23abb6b5_514a_4801_88e1_a06b5532fdf2 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_23abb6b5_514a_4801_88e1_a06b5532fdf2">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_056f3568_f568_4d9b_a527_1faaabda3e30"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e"/>
```



```
<rdfs:label xml:lang="it">is part of</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_24f17e78_16f2_4f3d_a412_8756e435098f -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_24f17e78_16f2_4f3d_a412_8756e435098f">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A2_specify_unique_selling_point_(usp)"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_development_to_produce_BBPs_for_niche_markets_and_broader_markets"/>
  <rdfs:label xml:lang="it">in</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_29d530f4_3ad6_47e3_afc7_ab26576dc38b -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_29d530f4_3ad6_47e3_afc7_ab26576dc38b">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C2_introduce_eu&national_incentives"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Supporting_European_and_national_strategies_(incentives),_regulatory_frameworks,_legislation_and_standards_to_stimulate_the_production_and_use_of_BBP"/>
  <rdfs:label xml:lang="it">in</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_321538b8_8c5e_4cef_9a7c_44458d096858 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_321538b8_8c5e_4cef_9a7c_44458d096858">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```





```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Stakeholder"/>

<rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_334ceb8c_c09f_4e3b_b235_e91bfdc441ce -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_334ceb8c_c09f_4e3b_b235_e91bfdc441ce">

  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E2_boost_local_deployment"/>

  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Regional/local_action_plans_and_activities_to_stimulate_the_production_and_use_of_BBP"/>

  <rdfs:label xml:lang="it">in</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_35ac691d_609d_42f8_8654_2e37432d946a -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_35ac691d_609d_42f8_8654_2e37432d946a">

  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>

  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A2_specify_unique_selling_point_(usp)"/>

  <rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3800c775_f13f_4150_b1ee_a1b915991946 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3800c775_f13f_4150_b1ee_a1b915991946">

  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```



```

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product"/>

<rdfs:label xml:lang="it">isOwnerOf</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3c28c2da_6836_4162_b178_9c3bd31a415e -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3c28c2da_6836_4162_b178_9c3bd31a415e">

  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6e2d7033_5623_4ec0_a16c_e875486fdac6"/>

  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>

  <rdfs:label xml:lang="it">inserted by</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3e48be2f_eeaa_4d6b_a505_ba963dca9c57 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3e48be2f_eeaa_4d6b_a505_ba963dca9c57">

  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>

  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building_awareness_and_trust_with_interested_business_and_consumers"/>

  <rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3fe44350_1446_45d3_9088_5bf2895a0941 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_3fe44350_1446_45d3_9088_5bf2895a0941">

  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type"/>

```



```
<rdfs:range                                rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Policy_Maker/Government"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!--                                http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_43558796_f170_40ba_93cd_47930487accd -->
```

```
<owl:ObjectProperty                    rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_43558796_f170_40ba_93cd_47930487accd">
```

```
<rdfs:domain                            rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E1_enhance_local_bioeconomy_strategies_&amp;_action_plans"/>
```

```
<rdfs:range                                rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Regional/local_action_plans_and_activities_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!--                                http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_436f66b6_7eff_4357_b7f5_e037619144be -->
```

```
<owl:ObjectProperty                    rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_436f66b6_7eff_4357_b7f5_e037619144be">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product"/>
```

```
<rdfs:label xml:lang="it">is interested by</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!--                                http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_450d543f_a6ac_4c7e_b8fd_dcb5380f3a68 -->
```

```
<owl:ObjectProperty                    rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_450d543f_a6ac_4c7e_b8fd_dcb5380f3a68">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization_type"/>
```



```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#University"/>
<rdfs:label xml:lang="it">is a</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_46b2d282_33d2_4313_af54_3a8c745375f3 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_46b2d282_33d2_4313_af54_3a8c745375f3">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization_type"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#NGO"/>
  <rdfs:label xml:lang="it">is a</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_4c9a8b9c_c5b2_43f5_8e01_1027ca899b31 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_4c9a8b9c_c5b2_43f5_8e01_1027ca899b31">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product"/>
  <rdfs:label xml:lang="it">is a stage</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_4e6b6a6e_cffb_47d5_82c8_16068d27e5b4 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_4e6b6a6e_cffb_47d5_82c8_16068d27e5b4">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6c35f56a_c287_4821_8738_c060486889e8"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Stakeholder"/>
```



```
<rdfs:label xml:lang="it">is provided by</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_4fa0b1b0_7591_484c_8785_5ca882f2fe74 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_4fa0b1b0_7591_484c_8785_5ca882f2fe74">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_cfe047dc_ccbf_4132_9ad1_c6c0025ba8fe"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_002c31cd_fe3a_4352_8db7_289f864847fc"/>
  <rdfs:label xml:lang="it">is an</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_53b3bd70_b3e5_433c_8860_98a75a4d3548 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_53b3bd70_b3e5_433c_8860_98a75a4d3548">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Other"/>
  <rdfs:label xml:lang="it">is a</rdfs:label>
</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_57155446_ccab_4ca4_8b0d_8d5d6cfeaeeee -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_57155446_ccab_4ca4_8b0d_8d5d6cfeaeeee">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A3_up-scaling"/>
  <rdfs:label xml:lang="it">is a</rdfs:label>
```



</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5801cd2e\_811c\_4135\_9418\_76f35f77d198 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5801cd2e\_811c\_4135\_9418\_76f35f77d198">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\_916667be\_386c\_42df\_8f00\_c77427a09a7a"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\_002c31cd\_fe3a\_4352\_8db7\_289f864847fc"/>

<rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5981767a\_8f3e\_41f4\_a524\_0275e671fddf -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5981767a\_8f3e\_41f4\_a524\_0275e671fddf">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C2\_introduce\_eu&national\_incentives"/>

<rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5ab9189d\_01c1\_4c40\_a18a\_d83912ec1055 -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5ab9189d\_01c1\_4c40\_a18a\_d83912ec1055">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C2\_introduce\_eu&national\_incentives"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market"/>

<rdfs:label xml:lang="it">during</rdfs:label>



</owl:ObjectProperty>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\\_5acfb35\\_584d\\_4b97\\_b828\\_761efd91c9d0](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5acfb35_584d_4b97_b828_761efd91c9d0) -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5acfb35\_584d\_4b97\_b828\_761efd91c9d0">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization\_type"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Company"/>

<rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\\_5ccd04cc\\_048e\\_4369\\_9a98\\_90fc271844ca](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5ccd04cc_048e_4369_9a98_90fc271844ca) -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5ccd04cc\_048e\_4369\_9a98\_90fc271844ca">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization\_type"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#School"/>

<rdfs:label xml:lang="it">is a</rdfs:label>

</owl:ObjectProperty>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\\_5d11330b\\_9bce\\_44e9\\_894f\\_206c71da0a69](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5d11330b_9bce_44e9_894f_206c71da0a69) -->

<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty\_5d11330b\_9bce\_44e9\_894f\_206c71da0a69">

<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D2\_b2b\_users\_as\_frontrunners"/>

<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market"/>

<rdfs:label xml:lang="it">during</rdfs:label>

</owl:ObjectProperty>

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5ec023e0_74a9_4638_9458_0170a2bca213 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5ec023e0_74a9_4638_9458_0170a2bca213">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C3_realise_standardization"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Supporting_European_and_national_strategies_(incentives),_regulatory_frameworks,_legislation_and_standards_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5f8180e1_9610_4b30_af7f_c91a04f7ac3f -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_5f8180e1_9610_4b30_af7f_c91a04f7ac3f">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_61d49715_6af4_4657_ba73_470d7e639421 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_61d49715_6af4_4657_ba73_470d7e639421">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A1_find_first_customer"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business_case"/>
```

```
<rdfs:label xml:lang="it">during</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6290264b_5b71_4b34_9852_714eb9ab16fc -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6290264b_5b71_4b34_9852_714eb9ab16fc">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Civil_Society"/>  
  <rdfs:label xml:lang="it">is a</rdfs:label>  
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_64d36a62_fa69_49d5_99b9_5475f3fa345f -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_64d36a62_fa69_49d5_99b9_5475f3fa345f">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E2_boost_local_deployment"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market"/>  
  <rdfs:label xml:lang="it">during</rdfs:label>  
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_67fc0a1c_e466_4c0f_9c06_34d5a989bec8 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_67fc0a1c_e466_4c0f_9c06_34d5a989bec8">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_c813b557_fc00_4225_ab8e_9ecdc131f745"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>  
  <rdfs:label xml:lang="it">has</rdfs:label>  
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6846e97a_ef3c_4228_bda6_598252164794 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6846e97a_ef3c_4228_bda6_598252164794">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Project"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product"/>
```

```
<rdfs:label xml:lang="it">isRelatedTo</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6b18f1bd_1960_465a_a6ed_108292adf83a -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6b18f1bd_1960_465a_a6ed_108292adf83a">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Regional/local_action_plans_and_activities_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6c91b212_9786_4b7c_b661_fe3ec324ddb5 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6c91b212_9786_4b7c_b661_fe3ec324ddb5">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Supporting_European_and_national_strategies_(incentives),_regulatory_frameworks,_legislation_and_standards_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6ea2e0bd_01e5_46c2_90c3_ace60015a1a9 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6ea2e0bd_01e5_46c2_90c3_ace60015a1a9">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization_type"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Research_organization"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6f16fbd6_56af_4d68_b46e_4799e7281f6f -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6f16fbd6_56af_4d68_b46e_4799e7281f6f">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>
```

```
<rdfs:label xml:lang="it">is part of</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6f8174a1_2240_433b_b77e_361400916429 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_6f8174a1_2240_433b_b77e_361400916429">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D3_increase_sustainable_2g_feed-stock_for_bb_products"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Developing_a_supporting_environment_to_improve_second_generation_(2G)_feedstock_and_more_intermediaries_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
```

```
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_7c47b48c_8c42_49aa_84f3_fa5d15959b2d -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_7c47b48c_8c42_49aa_84f3_fa5d15959b2d">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B3_increase_the_adoption"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_80418396_9616_4d5c_8fac_d806d2b0836b -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_80418396_9616_4d5c_8fac_d806d2b0836b">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document"/>
```

```
<rdfs:label xml:lang="it">isOwnerOf</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_836cb906_ec4d_4d44_a995_fe0cb5df700d -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_836cb906_ec4d_4d44_a995_fe0cb5df700d">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building_construction_and_restoration,_paintings,_decorations_and_furniture"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_85ed3e2c_cb3a_4ab8_a462_fadd605decdf -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_85ed3e2c_cb3a_4ab8_a462_fadd605decdf">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C3_realise_standardization"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_8ee4d7f1_2f70_4dd6_9628_f7ade9e7c3f5 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_8ee4d7f1_2f70_4dd6_9628_f7ade9e7c3f5">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6c35f56a_c287_4821_8738_c060486889e8"/>
```

```
<rdfs:label xml:lang="it">is interested by</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_90890c0c_0da0_4445_a8f4_4b52edfb28b8 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_90890c0c_0da0_4445_a8f4_4b52edfb28b8">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A3_up-scaling"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration"/>
```

```
<rdfs:label xml:lang="it">during</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_964cf790_a2d7_4367_8e5f_7c3b039468df -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_964cf790_a2d7_4367_8e5f_7c3b039468df">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>  
  <rdfs:label xml:lang="it">has</rdfs:label>  
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_9e146ecc_bf84_4f90_8069_e7b6bb6bd683 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_9e146ecc_bf84_4f90_8069_e7b6bb6bd683">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_c813b557_fc00_4225_ab8e_9ecdc131f745"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>  
  <rdfs:label xml:lang="it">has</rdfs:label>  
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_a1423482_b97b_4ed1_a07e_68c1864c93f9 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_a1423482_b97b_4ed1_a07e_68c1864c93f9">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6e2d7033_5623_4ec0_a16c_e875486fdac6"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>  
  <rdfs:label xml:lang="it">has</rdfs:label>  
</owl:ObjectProperty>
```







```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_a17eff80_c5ce_4a35_9797_ebe1bacf63c4 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_a17eff80_c5ce_4a35_9797_ebe1bacf63c4">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A1_find_first_customer"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_a5c34bd2_7be3_463b_858f_ef3788986b6a -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_a5c34bd2_7be3_463b_858f_ef3788986b6a">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B2_changes_in_purchase_habits"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building_awareness_and_trust_with_interested_business_and_consumers"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_adcdd71c_d2d7_40af_bcb4_34c76cc9532a -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_adcdd71c_d2d7_40af_bcb4_34c76cc9532a">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_fba83be4_f25a_47a9_88e1_963d4d29bc29"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e"/>
```

```
<rdfs:label xml:lang="it">is part of</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_af8b3486_65ae_4e41_8866_a86f754de278 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_af8b3486_65ae_4e41_8866_a86f754de278">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D1_improve_the_ecosystem_to_enhance_business_cases"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business_case"/>
```

```
<rdfs:label xml:lang="it">during</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b5bf3043_bacc_4409_bdc1_8f8bef65c456 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b5bf3043_bacc_4409_bdc1_8f8bef65c456">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_a1d51c57_2d9a_45da_95e1_d12657a476c3"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:label xml:lang="it">is provided by</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b6c7c6ab_c638_45d1_ad69_1e9607577bf9 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b6c7c6ab_c638_45d1_ad69_1e9607577bf9">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase"/>
```

```
<rdfs:label xml:lang="it">is part of</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b736f03e_a480_4a05_b06c_3c4ea38dd874 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b736f03e_a480_4a05_b06c_3c4ea38dd874">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#SimpleUser"/>  
  <rdfs:label xml:lang="it">is a</rdfs:label>  
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b7f506f1_aa5f_48f2_9c4e_2a07a092a83e -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b7f506f1_aa5f_48f2_9c4e_2a07a092a83e">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B2_changes_in_purchase_habits"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market"/>  
  <rdfs:label xml:lang="it">during</rdfs:label>  
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b95461e9_4696_49a6_8b74_f4a36df894c8 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_b95461e9_4696_49a6_8b74_f4a36df894c8">  
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A2_specify_unique_selling_point_(usp)"/>  
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market"/>  
  <rdfs:label xml:lang="it">during</rdfs:label>  
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_baac506c_0443_4c7a_b385_396a54637113 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_baac506c_0443_4c7a_b385_396a54637113">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_cfe047dc_ccbf_4132_9ad1_c6c0025ba8fe"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c482b733_79fe_42f8_adda_60aac696f80 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c482b733_79fe_42f8_adda_60aac696f80">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D1_improve_the_ecosystem_to_enhance_business_cases"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Developing_a_supporting_environment_to_improve_second_generation_(2G)_feedstock_and_more_intermediaries_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">in</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c552abb7_95d1_4104_b1fc_af444a3f444 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c552abb7_95d1_4104_b1fc_af444a3f444">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6e2d7033_5623_4ec0_a16c_e875486fdac6"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>
```

```
<rdfs:label xml:lang="it">has</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c5c29d87_8582_4966_bf8d_c1d5264804aa -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c5c29d87_8582_4966_bf8d_c1d5264804aa">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Project"/>
```

```
<rdfs:label xml:lang="it">isOwnerOf</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c637173d_8ab5_4f4d_9570_b8f69ab06629 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c637173d_8ab5_4f4d_9570_b8f69ab06629">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6c35f56a_c287_4821_8738_c060486889e8"/>
```

```
<rdfs:label xml:lang="it">is part of</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c927ca80_b60d_4d67_8b97_72121c6dae62 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_c927ca80_b60d_4d67_8b97_72121c6dae62">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_5a144eb3_b2b0_4536_8ead_62d11414dd03"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e"/>
```

```
<rdfs:label xml:lang="it">is part of</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cae5feef_88ce_4c9e_bbaaf_59af3a9ec2d5 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cae5feef_88ce_4c9e_bbaaf_59af3a9ec2d5">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cbc5581b_82db_4c6c_a899_d7aa8f8bd6a8 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cbc5581b_82db_4c6c_a899_d7aa8f8bd6a8">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B3_increase_the_adoption"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration"/>
```

```
<rdfs:label xml:lang="it">during</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cc6e2517_2981_4ffe_a830_dcfcc4e521fe -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cc6e2517_2981_4ffe_a830_dcfcc4e521fe">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#SimpleUser"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type"/>
```

```
<rdfs:label xml:lang="it">has</rdfs:label>
```

```
</owl:ObjectProperty>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cd4cbe77_aac3_4882_ac55_b6bcd7864378 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_cd4cbe77_aac3_4882_ac55_b6bcd7864378">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D3_increase_sustainable_2g_feed-stock_for_bb_products"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration"/>
```

```
<rdfs:label xml:lang="it">during</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_d35826bc_ed10_4c2f_9913_1edce99dfa7d -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_d35826bc_ed10_4c2f_9913_1edce99dfa7d">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_d7438020_c259_44e6_b813_8917193e6255 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_d7438020_c259_44e6_b813_8917193e6255">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_c813b557_fc00_4225_ab8e_9ecdc131f745"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:label xml:lang="it">inserted by</rdfs:label>
```

```
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_d9ea3682_4405_4371_b162_2014420605e5 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_d9ea3682_4405_4371_b162_2014420605e5">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Nutraceuticals_environmental_bioregulation_and_biological_sensors"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_daff2a4e_f11a_4f3c_8e1f_049f3ee12451 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_daff2a4e_f11a_4f3c_8e1f_049f3ee12451">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document"/>
```

```
<rdfs:label xml:lang="it">is interested by</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_dcc2188e_b69c_4b12_aa27_460e9a9fc4ca -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_dcc2188e_b69c_4b12_aa27_460e9a9fc4ca">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_cfe047dc_ccbf_4132_9ad1_c6c0025ba8fe"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_916667be_386c_42df_8f00_c77427a09a7a"/>
```

```
<rdfs:label xml:lang="it">extends</rdfs:label>
```

```
</owl:ObjectProperty>
```







```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_e47d3658_c796_4a72_820c_2ce169f39dfe -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_e47d3658_c796_4a72_820c_2ce169f39dfe">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_65594f6b_a374_46ef_a211_cf29f4b3f0da"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043"/>
```

```
<rdfs:label xml:lang="it">inserted by</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_e4fda72b_0efb_40c0_aa1c_4d72997d6e6f -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_e4fda72b_0efb_40c0_aa1c_4d72997d6e6f">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Cleaning_and_hygiene,_personal_care_and_cosmetics,_health_and_biomedical"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_eaca340b_4008_4ff8_bce3_11e1966a6d39 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_eaca340b_4008_4ff8_bce3_11e1966a6d39">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_97c5f98a_a425_45aa_9b4d_9ad6439bcfaf"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e"/>
```

```
<rdfs:label xml:lang="it">is part of</rdfs:label>
```

```
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_eea32e8c_f8b3_470d_af5b_bf42fb105f92 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_eea32e8c_f8b3_470d_af5b_bf42fb105f92">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
```

```
<rdfs:label xml:lang="it">has</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f0ece226_130a_4d4d_8dd7_08b6d731db41 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f0ece226_130a_4d4d_8dd7_08b6d731db41">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OrganizationUser"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f16527d4_8e11_486f_b45c_ad5f0a74bc29 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f16527d4_8e11_486f_b45c_ad5f0a74bc29">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business_case"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f23a9354_3815_48f3_b228_88c5e869183b -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f23a9354_3815_48f3_b228_88c5e869183b">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Food_packaging_disposable_tablewear"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f61fbfa4_08a0_49b8_ae03_73a9255b08cd -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_f61fbfa4_08a0_49b8_ae03_73a9255b08cd">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Developing_a_supporting_environment_to_improve_second_generation_(2G)_feedstock_and_more_intermediaries_to_stimulate_the_production_and_use_of_BBP"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_fe0b20f7_36ec_45f5_ad93_a7322e1fd82e -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_fe0b20f7_36ec_45f5_ad93_a7322e1fd82e">
```

```
<rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type"/>
```

```
<rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Researcher_Accademy"/>
```

```
<rdfs:label xml:lang="it">is a</rdfs:label>
```

```
</owl:ObjectProperty>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_ffd9e0cf_0b50_4906_9293_5a9b91d3ec67 -->
```

```
<owl:ObjectProperty rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLObjectProperty_ffd9e0cf_0b50_4906_9293_5a9b91d3ec67">
  <rdfs:domain rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document"/>
  <rdfs:range rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Project"/>
  <rdfs:label xml:lang="it">isRelatedTo</rdfs:label>
</owl:ObjectProperty>
```

```
<!--
////////////////////////////////////
//
// Classes
//
////////////////////////////////////
-->
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A1_find_first_customer -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A1_find_first_customer">
  <rdfs:label xml:lang="it">A1 find first customer</rdfs:label>
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A3_up-scaling -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A3_up-scaling">
  <rdfs:label xml:lang="it">A3 up-scaling</rdfs:label>
</owl:Class>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B2_changes_in_purchase_habits -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B2_changes_in_purchase_habits">  
  <rdfs:label xml:lang="it">B2 changes in purchase habits</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B3_increase_the_adoption -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#B3_increase_the_adoption">  
  <rdfs:label xml:lang="it">B3 increase the adoption</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Biofuels_and_bioenergy -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Biofuels_and_bioenergy">  
  <rdfs:label xml:lang="it">Biofuels and bioenergy</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building_awareness_and_trust_with_interested_business_and_consumers -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building_awareness_and_trust_with_interested_business_and_consumers">  
  <rdfs:label xml:lang="it">Building awareness and trust with interested business and consumers</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business">
```

```
  <rdfs:label xml:lang="it">Business</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business_case -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Business_case">
```

```
  <rdfs:comment>Product is 95% mature and becomes a business case</rdfs:comment>
```

```
  <rdfs:label xml:lang="it">Business case</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C3_realise_standardization -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C3_realise_standardization">
```

```
  <rdfs:label xml:lang="it">C3 realise standardization</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Challenge">
```

```
  <rdfs:comment>Definition1: A challenge is something new and difficult which requires great effort and determination.
```

Source: Collins Dictionary, <https://www.collinsdictionary.com/dictionary/english/challenge>

Definition2: A challenge in BIOVOICES is a core and new question to be addresses and difficult which requires great effort and determination in the framework of the specified topics (clusters).</rdfs:comment>

```
  <rdfs:label xml:lang="it">Challenge</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Civil_Society -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Civil_Society">
```

```
  <rdfs:label xml:lang="it">Civil Society</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Company -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Company">
```

```
  <rdfs:label xml:lang="it">Company</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D1_improve_the_ecosystem_to_enhance_business_cases -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D1_improve_the_ecosystem_to_enhance_business_cases">
```

```
  <rdfs:label xml:lang="it">D1 improve the ecosystem to enhance business cases</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D2_b2b_users_as_frontrunners -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D2_b2b_users_as_frontrunners">
```

```
  <rdfs:label xml:lang="it">D2 b2b users as frontrunners</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D3_increase_sustainable_2g_feed-stock_for_bb_products -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#D3_increase_sustainable_2g_feed-stock_for_bb_products">
```

```
<rdfs:label xml:lang="it">D3 increase sustainable 2g feed-stock for bb products</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Development_phase">
```

```
<rdfs:comment>Definition: The market development phases of a bio-based products identifies the 3 stages necessary to go to the market, starting from 95% mature products.</rdfs:comment>
```

```
<rdfs:label xml:lang="it">Market development phase</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Document">
```

```
<rdfs:comment>Definition: A "Document" is a file collected in a "Document collection" and described according to the following properties:
```

```
Title
```

```
Subtitle
```

```
Abstract
```

```
Description
```

```
Year of publication
```

```
Author
```

```
Owner
```

```
Owner type
```

```
Keywords
```

```
Document Type
```

```
File
```

```
Preview image [autogenerated]</rdfs:comment>
```





```
<rdfs:label xml:lang="it">Document</rdfs:label>
</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E2_boost_local_deployment -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E2_boost_local_deployment">
  <rdfs:label xml:lang="it">E2 boost local deployment</rdfs:label>
</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Go-to-market">
  <rdfs:comment>Mature product and early market penetration</rdfs:comment>
  <rdfs:label xml:lang="it">Go-to-market</rdfs:label>
</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Market_acceleration">
  <rdfs:comment>Market increases and new user groups are reached</rdfs:comment>
  <rdfs:label xml:lang="it">Market acceleration</rdfs:label>
</owl:Class>

<!--
  http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#Market_development_to_produce_BBPs_for_niche_markets_and_broader_markets -->

<owl:Class
  rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#Market_development_to_produce_BBPs_for_niche_markets_and_broader_markets">
```



```

    <rdfs:label xml:lang="it">Market development to produce BBPs for niche markets and broader markets</rdfs:label>
  </owl:Class>

  <!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#NGO -->

  <owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#NGO">
    <rdfs:label xml:lang="it">NGO</rdfs:label>
  </owl:Class>

  <!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_002c31cd_fe3a_4352_8db7_289f864847fc -->

  <owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_002c31cd_fe3a_4352_8db7_289f864847fc">
    <rdfs:comment>Definition: Theoretically, the helix model refers to structures and processes where the diversity of agents are arranged into "fluid and heterogeneous innovation networks" (Carayannis and Campbell 2011, p. 342) in which innovations are conceived to be stimulated by a co-creation process among the actors (Füzi 2013) and where a "fluid movement of knowledge" takes place (MacGregor et al. 2010, p. 186).</rdfs:comment>
    <rdfs:label xml:lang="it">Helix Model</rdfs:label>
  </owl:Class>

  <!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_056f3568_f568_4d9b_a527_1faabda3e30 -->

  <owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_056f3568_f568_4d9b_a527_1faabda3e30">
    <rdfs:comment>Definition:
    BIOVOICES defines Public administration any stakeholder representative such as Governmental ORGANISATION and regulators (ministries), Legal framework, Legislature/ Parliamentary committees, Judicial councils, Technical administrations (national and regional), Delivery of Public resources, Guidance of research, Public procurement procedures, Think tanks and decision makers.</rdfs:comment>
    <rdfs:label xml:lang="it">Public administration</rdfs:label>
  </owl:Class>

```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_56304e87_d4e6_45a1_84df_3c9c1bf9c31e">
```

```
<rdfs:comment>Definition: The BIO-BASED Quadruple Helix model contextualizes Public administration, Business, Research and education, and Civil society for Bio-economy. In particular, Public administration, Business, Research and education and Civil society are characterised.
```

“Public administration have to guide research, provide resources (through research programmes) as well as to help create legitimate and feasible market opportunities.

The role of businesses is both to provide feestock, to develop, innovate and sell new products and to

consider their corporate sustainability to contribute to a circular bio-based economy. The provision of feedstock and improved market uptake could be relevant subjects for mutual cooperation with Public administration and civil society to enhance the circular bio-based economy”. ...

```
<rdfs:comment>“Public administration can contribute at creating improved reputation of bio-based products by better cooperation with CSOs and academia, while more market opportunities could be created by setting defaults that enhance the circular bio-based economy compared to the fossil-based economy (legislation), by acting as a pump-priming customer of bio-based products, and by providing economic incentives (via taxes or subsidies)”. (Greet Overbeek & Anne-Charlotte Hoes 2018).</rdfs:comment>
```

```
<rdfs:label xml:lang="it">BIO-BASED Quadruple Helix model</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_5a144eb3_b2b0_4536_8ead_62d11414dd03 -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_5a144eb3_b2b0_4536_8ead_62d11414dd03">
```

```
<rdfs:comment>Definition:
```

```
BIOVOICES defines Business any stakeholder representative of Industrial fabric (big entities, spin offs, SMEs, Bran owners, suppliers and partners), Technological platforms and business Clusters /Trade Asociacion, Cell and Microbial Natural Product Libraries, Investors, Creditors & Financial entities, Labor unions/Employees, Retail, Lobbies an advocacy coalition.</rdfs:comment>
```

```
<rdfs:label xml:lang="it">Business</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_65594f6b_a374_46ef_a211_cf29f4b3f0da -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_65594f6b_a374_46ef_a211_cf29f4b3f0da">
```

```
<rdfs:comment>Definition: Periodic publication of the BIOVOICES project, circulated out to its subscribers. Its properties are:
```

- Title
- Description
- File
- Bio economy

```
Definition: "the production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products and bioenergy. Its sectors and industries have strong innovation potential due to their use of a wide range of sciences, enabling and industrial technologies, along with local and tacit knowledge."
```

```
Source:"Innovating for Sustainable Growth - A Bioeconomy for Europe" (2012)</rdfs:comment>
```

```
<rdfs:label xml:lang="it">Newsletter</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6c35f56a_c287_4821_8738_c060486889e8 -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6c35f56a_c287_4821_8738_c060486889e8">
```

```
<rdfs:comment>Definition: A "Document collection" is a repository that organises a set of documents. It is specified by a "Title".</rdfs:comment>
```

```
<rdfs:label xml:lang="it">Document collection</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6e2d7033_5623_4ec0_a16c_e875486fdac6 -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_6e2d7033_5623_4ec0_a16c_e875486fdac6">
```

```
<rdfs:comment>the Discussion&Collaboration area identifies a space where the BIOVOICES community member can start and manage discussions related to the different challenges. This discussion can be done in the chat; participants can exchange documents, pictures, and can organise virtual meetings. A calendar is also available to organise the next steps of the discussion and collaboration. A "Discussion&Collaboration area" is specified according to the following properties:
```

- Title
- Description
- Start date

- Type (Closed, Public, Private)</rdfs:comment>

```
<rdfs:label xml:lang="it">Mobilisation and Mutual Learning discussion group</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043 -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043">
```

```
<rdfs:subClassOf rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User"/>
```

```
<rdfs:label xml:lang="it">Administrator</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_916667be_386c_42df_8f00_c77427a09a7a -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_916667be_386c_42df_8f00_c77427a09a7a">
```

```
<rdfs:comment>Definition The concept of the Triple Helix of university-industry-government relationships interprets the shift from a dominating industry-government dyad in the Industrial Society to a growing triadic relationship between university-industry-government in the Knowledge Society. (Source 1).
```

Indeed the triple helix implements the helix model referring to government, research and industry.

In particular, "The Triple Helix thesis is that the potential for innovation and economic development in a Knowledge Society lies in a more prominent role for the university and in the hybridisation of elements from university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge. This vision encompasses not only the creative destruction that appears as a natural innovation dynamics but also the creative renewal that arises within each of the three institutional spheres of university, industry and government, as well as at their intersections." (Source2 )</rdfs:comment>

```
<rdfs:label xml:lang="it">Triple Helix Model</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_97c5f98a_a425_45aa_9b4d_9ad6439bcfaf -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_97c5f98a_a425_45aa_9b4d_9ad6439bcfaf">
```

<rdfs:comment>Definition:

BIOVOICES defines Civil society any stakeholder representative of Consumers, CSOs & NGOs, Lobbies an advocacy coalitions, Media and influencers, Local communities.</rdfs:comment>

<rdfs:label xml:lang="it">Civil Society</rdfs:label>

</owl:Class>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\\_a1d51c57\\_2d9a\\_45da\\_95e1\\_d12657a476c3](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_a1d51c57_2d9a_45da_95e1_d12657a476c3) -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\_a1d51c57\_2d9a\_45da\_95e1\_d12657a476c3">

<rdfs:comment>News is "a report of recent events" (3). You can share news from other websites or write a news, adding a short text (like a post), a preview image and it is also possible to share a gallery within a news. When you Add news from another website it is necessary to specify properties such as:

- Title of the News
- Link to the Website

When you Write a news it is necessary to specify properties such as:

- Title of the News
- SubTitle of the News
- Text
- Miniature picture for the news
- Gallery of pictures (optional)

Source: (3) Webster dictionary</rdfs:comment>

<rdfs:label xml:lang="it">News</rdfs:label>

</owl:Class>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\\_c813b557\\_fc00\\_4225\\_ab8e\\_9ecdc131f745](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_c813b557_fc00_4225_ab8e_9ecdc131f745) -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\_c813b557\_fc00\_4225\_ab8e\_9ecdc131f745">

<rdfs:comment xml:lang="it">"Event" identifies a virtual space where the BIOVOICES community members can organise and manage events (face2face and virtual) in an established date. They can invite participant, can ask to the invited people to register themselves, can share the Agenda and documents describing the outcomes of the event, can organise for a pool, share videos, organize video streaming. An event is specified according to the following properties:

- Title

- Description
- Organiser
- Start date
- End date
- Timezone
- Event type (International, Local)
- Event location (Web, Real place)
- To be shared in the BIOVOICES website (available only to some administrators)
- Notes</rdfs:comment>

```
<rdfs:label>Event</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_cfe047dc_ccbf_4132_9ad1_c6c0025ba8fe -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_cfe047dc_ccbf_4132_9ad1_c6c0025ba8fe">
```

```
<rdfs:comment>Definition: "The Quadruple Helix contextualizes the triple helix by adding as the fourth helix civil society and the media- and culture-based public. This is the understanding that additional perspectives must be added to comprehend innovation in the unfolding twenty-first century. In fact, democracy frames and changes our conditions of innovation. The TH is not really sensitive enough for this democratic additionality, whereas the Quadruple Helix reflects on this" (Source1)
```

```
In particular, the Quadruple Helix is "A new paradigm based on a Quadruple Helix Model where government, industry, academia and civil participants work together to co-create the future and drive structural changes far beyond the scope of what any one organization or person could do alone. This model encompasses also user-oriented innovation models to take full advantage of ideas&apos; cross-fertilisation leading to experimentation and prototyping in real world setting." (Source 2)</rdfs:comment>
```

```
<rdfs:label xml:lang="it">Quadruple Helix Model</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_fba83be4_f25a_47a9_88e1_963d4d29bc29 -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_fba83be4_f25a_47a9_88e1_963d4d29bc29">
```

```
<rdfs:comment>Definition:
```



BIOVOICES defines Research and education any stakeholder representative of Scientific technological platforms, R&D centres and facilities, Scientific-Technological park foundation, DEMO plants, BIO Incubators, Universities and educational institutions.</rdfs:comment>

<rdfs:label xml:lang="it">Research and Education</rdfs:label>

</owl:Class>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\\_ff01c326\\_2b0c\\_46a8\\_b12d\\_2e209701ce81](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_ff01c326_2b0c_46a8_b12d_2e209701ce81) -->

<owl:Class [rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass\\_ff01c326\\_2b0c\\_46a8\\_b12d\\_2e209701ce81"](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_ff01c326_2b0c_46a8_b12d_2e209701ce81)>

<rdfs:comment>Definition: &quot;the production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products and bioenergy. Its sectors and industries have strong innovation potential due to their use of a wide range of sciences, enabling and industrial technologies, along with local and tacit knowledge.&quot;</rdfs:comment>

<rdfs:label xml:lang="it">Bioeconomy</rdfs:label>

</owl:Class>

<!-- <http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OrganizationUser> -->

<owl:Class [rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OrganizationUser"](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OrganizationUser)>

<rdfs:comment>E-mail

Password

Company/organization

Phone

Website

Type of stakeholder

Address in detail</rdfs:comment>

</owl:Class>

<!-- [http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization\\_type](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization_type) -->

<owl:Class [rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization\\_type"](http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Organization_type)>





```
<rdfs:label xml:lang="it">Organization type</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Other -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Other">
```

```
<rdfs:label xml:lang="it">Other</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Product">
```

```
<rdfs:comment>Definition: "Bio-based products are wholly or partly derived from materials of biological origin, excluding materials embedded in geological formations and/or fossilised. In industrial processes, enzymes are used in the production of chemical building blocks, detergents, pulp and paper, textiles, etc. By using fermentation and bio-catalysis instead of traditional chemical synthesis, higher process efficiency can be obtained, resulting in a decrease in energy and water consumption, and a reduction of toxic waste. As they are derived from renewable raw materials such as plants, bio-based products can help reduce CO2 and offer other advantages such as lower toxicity or novel product characteristics (e.g. biodegradable plastic materials)" (http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products_en).
```

Title

Subtitle

Description

Producer/researcher

Application sectors

Author

Useful website

```
Images [logo, raw material, final product]</rdfs:comment>
```

```
<rdfs:label xml:lang="it">Bio-based Product</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Profile_type">
  <rdfs:label xml:lang="it">Profile type</rdfs:label>
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Project -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Project">
  <rdfs:comment>Acronym
```

Title

Funding programme

Website

Start date

End date

Contacts</rdfs:comment>

```
  <rdfs:label xml:lang="it">Project</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Research_organization -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Research_organization">
```

```
  <rdfs:label xml:lang="it">Research organization</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Researcher_Accademy -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Researcher_Accademy">
```

```
  <rdfs:label xml:lang="it">Researcher Accademy</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#School -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#School">
```

```
  <rdfs:label xml:lang="it">School</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Sector">
```

```
  <rdfs:comment>Definition: This is a filter for the Events, the Discussion&Collaboration area, Biobased Products and Documents in the on-line libraries.</rdfs:comment>
```

```
  <rdfs:label xml:lang="it">Application sector</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#SimpleUser -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#SimpleUser">
```

```
  <rdfs:comment>E-mail
```

```
  Password
```

```
  Firstname
```

```
  Lastname
```

```
  Gender
```

```
  Country
```

```
  Company/organization [optional]
```

```
  Phone [optional]
```

```
  Website [optional]
```

```
  Type of stakeholder [optional]
```

```
  Address in detail [optional]</rdfs:comment>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Stakeholder -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Stakeholder">  
  <rdfs:label xml:lang="it">Stakeholder</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Topic">  
  <rdfs:label xml:lang="it">Topic</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#University -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#University">  
  <rdfs:label xml:lang="it">University</rdfs:label>  
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#User">  
  <rdfs:comment>Definition: a person or group of people who own a share in a business. a person such as an employee, customer, or  
citizen who is involved with an organization, society, etc. and therefore has responsibilities towards it and an interest in its  
success</rdfs:comment>  
  <rdfs:label xml:lang="it">User</rdfs:label>  
</owl:Class>
```



```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A2_specify_unique_selling_point_(usp) -->
```

```
<owl:Class                                rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#A2_specify_unique_selling_point_(usp)">
  <rdfs:label xml:lang="it">A2 specify unique selling point (usp)</rdfs:label>
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building,_construction_and_restoration,_paintings,_decorations_and_furniture -->
```

```
<owl:Class                                rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Building,_construction_and_restoration,_paintings,_decorations_and_furniture">
  <rdfs:label xml:lang="it">Building, construction and restoration, paintings, decorations and furniture</rdfs:label>
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C2_introduce_eu&national_incentives -->
```

```
<owl:Class                                rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#C2_introduce_eu&national_incentives">
  <rdfs:label xml:lang="it">C2 introduce eu&national incentives</rdfs:label>
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Cleaning_and_hygiene,_personal_care_and_cosmetics,_health_and_biomedical -->
```

```
<owl:Class                                rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Cleaning_and_hygiene,_personal_care_and_cosmetics,_health_and_biomedical">
  <rdfs:label xml:lang="it">Cleaning and hygiene, personal care and cosmetics, health and biomedical</rdfs:label>
</owl:Class>
```





```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Developing_a_supporting_environment_to_improve_second_generation_(2G)_feedstock_and_more_intermediaries_to_stimulate_the_production_and_use_of_BBP -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Developing_a_supporting_environment_to_improve_second_generation_(2G)_feedstock_and_more_intermediaries_to_stimulate_the_production_and_use_of_BBP">
```

```
<rdfs:label xml:lang="it">Developing a supporting environment to improve second generation (2G) feedstock and more intermediaries to stimulate the production and use of BBP</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E1_enhance_local_bioeconomy_strategies_&_action_plans -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#E1_enhance_local_bioeconomy_strategies_&_action_plans">
```

```
<rdfs:label xml:lang="it">E1 enhance local bioeconomy strategies & action plans</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Food_packaging,_disposable_tablewear -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Food_packaging,_disposable_tablewear">
```

```
<rdfs:label xml:lang="it">Food packaging, disposable tablewear</rdfs:label>
```

```
</owl:Class>
```

```
<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Nutraceuticals,_environmental_bioregulation_and_biological_sensors -->
```

```
<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Nutraceuticals,_environmental_bioregulation_and_biological_sensors">
```

```
<rdfs:label xml:lang="it">Nutraceuticals, environmental bioregulation and biological sensors</rdfs:label>
```





</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Policy\_Maker/Government -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Policy\_Maker/Government">

<rdfs:label xml:lang="it">Policy Maker/Government</rdfs:label>

</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Regional/local\_action\_plans\_and\_activities\_to\_stimulate\_the\_production\_and\_use\_of\_BBP -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Regional/local\_action\_plans\_and\_activities\_to\_stimulate\_the\_production\_and\_use\_of\_BBP">

<rdfs:label xml:lang="it">Regional/local action plans and activities to stimulate the production and use of BBP</rdfs:label>

</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Supporting\_European\_and\_national\_strategies\_(incentives),\_regulatory\_frameworks,\_legislation\_and\_standards\_to\_stimulate\_the\_production\_and\_use\_of\_BBP -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Supporting\_European\_and\_national\_strategies\_(incentives),\_regulatory\_frameworks,\_legislation\_and\_standards\_to\_stimulate\_the\_production\_and\_use\_of\_BBP">

<rdfs:label xml:lang="it">Supporting European and national strategies (incentives), regulatory frameworks, legislation and standards to stimulate the production and use of BBP</rdfs:label>

</owl:Class>

<!-- http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Textile\_products,\_clothing,\_sports\_and\_toys -->

<owl:Class rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#Textile\_products,\_clothing,\_sports\_and\_toys">



```

<rdfs:label xml:lang="it">Textile products, clothing, sports and toys</rdfs:label>
</owl:Class>

<!--
////////////////////////////////////
//
// Individuals
//
////////////////////////////////////
-->

<!--
http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#OWLNamedIndividual_49dd9d5e_81e6_4d36_846a_b80db9ff56bf -->

<owl:NamedIndividual
rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#OWLNamedIndividual_49dd9d5e_81e6_4d36_846a_b80db9ff56bf">

  <rdf:type
rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043"/>

  <rdfs:label xml:lang="it">CNR</rdfs:label>
</owl:NamedIndividual>

<owl:Axiom>

  <owl:annotatedSource
rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#OWLNamedIndividual_49dd9d5e_81e6_4d36_846a_b80db9ff56bf"/>

  <owl:annotatedProperty rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"/>

  <owl:annotatedTarget
rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043"/>

  <rdfs:label>CNR</rdfs:label>
</owl:Axiom>

<!--
http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-
14#OWLNamedIndividual_fcebe76e_a442_4356_a407_744afce5ba6b -->

```



```
<owl:NamedIndividual rdf:about="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLNamedIndividual_fcebe76e_a442_4356_a407_744afce5ba6b">
  <rdf:type rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043"/>
  <rdfs:label xml:lang="it">LOBA</rdfs:label>
</owl:NamedIndividual>
<owl:Axiom>
  <owl:annotatedSource rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLNamedIndividual_fcebe76e_a442_4356_a407_744afce5ba6b"/>
  <owl:annotatedProperty rdf:resource="http://www.w3.org/1999/02/22-rdf-syntax-ns#type"/>
  <owl:annotatedTarget rdf:resource="http://www.semanticweb.org/biancone/ontologies/2018/10/untitled-ontology-14#OWLClass_8d9a82d8_5127_4ab3_ae25_c6f8cfbe3043"/>
  <rdfs:label>LOBA</rdfs:label>
```