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D3.3.2 Argumentation Modelling Environment V2

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Document History

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EXECUTIVE SUMMARY

This document describes the environment for authoring the models with respect to policy domains and the policies themselves. It reports on the final functionalities of the Authoring Tool Policy Modelling Environment V2 with detailed page by page introduction.

This report is the accompanying document for the D3.3.2 prototype deliverable that was due for M33 (September 2014). The objective of this document was to present the final version of the NOMAD Argument Modelling Environment.

The architecture of the NOMAD authoring environment for argumentation modelling was described in D3.3.1. This document describes the final version layout, functionalities and serves as a manual for the NOMAD users, as well as any interested stakeholders.

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1. INTRODUCTION

1.1 Purpose and Scope

The Authoring Environment V2, which is accompanied by this accompanying document, facilitates the formalisation of the concepts, which are widely used in the policy making domain to act as the baseline for the automatic semantically-enabled analysis of arguments, which are retrieved from social media and other micro-blogging sources.

The Authoring Environment V2 is the final deliverable of Task 3.3: “Visual tool for policy argumentation modelling”, which aims to provide the work for the visualisation of the semantic-based authoring of policies and their arguments. In that respect, the prototype, which this report accompanies, assists the effective and comprehensive policy modelling, using advanced semantic representation technologies, to capture topics and arguments relevant to the policy and their inter-relations.

The ultimate goal of the prototype version of the NOMAD Argument Modelling Environment is to deliver a user-friendly environment for the domain experts with limiting or no expertise in knowledge representation technologies.

1.2 Methodology and Structure of the Deliverable

This document approaches the requirement for an efficient graphical user interface to enable policy makers modelling domains, policies and their associated argumentation and sources.

The document is structured as follows:

- Section 2 describes the procedure followed for the re-design of the final D3.3.2 prototype. It presents the approach that the designers and developers followed to produce the final re-designed tool with screenshots.
- Section 3 concludes the presentation of the key features of the D3.3.2 prototype.
- Section 4 serves as a user manual (as an Annex) for the non-IT users of the NOMAD System.

2. DESCRIPTION OF THE NOMAD ARGUMENT MODELLING ENVIRONMENT PROTOTYPE V2

The requirements design and the technologies used for this prototype were described in detail in D3.3.1. For the updated version the interface was transformed into a fully-fledged authoring interface for domains and policy models. It also an orchestration observatory for the NOMAD analysis process for the end user perspective.

2.1 New Technologies Used

The D3.js library was used as a means to provide advanced visualization options. The graph-based representation enables the core design of the updates functionalities and features of the prototype. This approach was followed in order to enhance the authoring environment to accommodate the complexity of a policy model with the possibility of all allowed connection between sub-policies, arguments and entities. That complexity could not be handled by the linear flow graph of the first version of the environment.

2.2 Re-Design approach

Usability-driven design and testing sessions using multiple ways to interact with visual models were performed in-house. Optimal interaction queues were recorded and tested for feasibility. Figures 1, 2 and 3 depict a small sample from a series of prototype mockups, interactive and functional (but not actively connected to the production system) that were used to evaluate the interaction elements during the design prototyping phase.

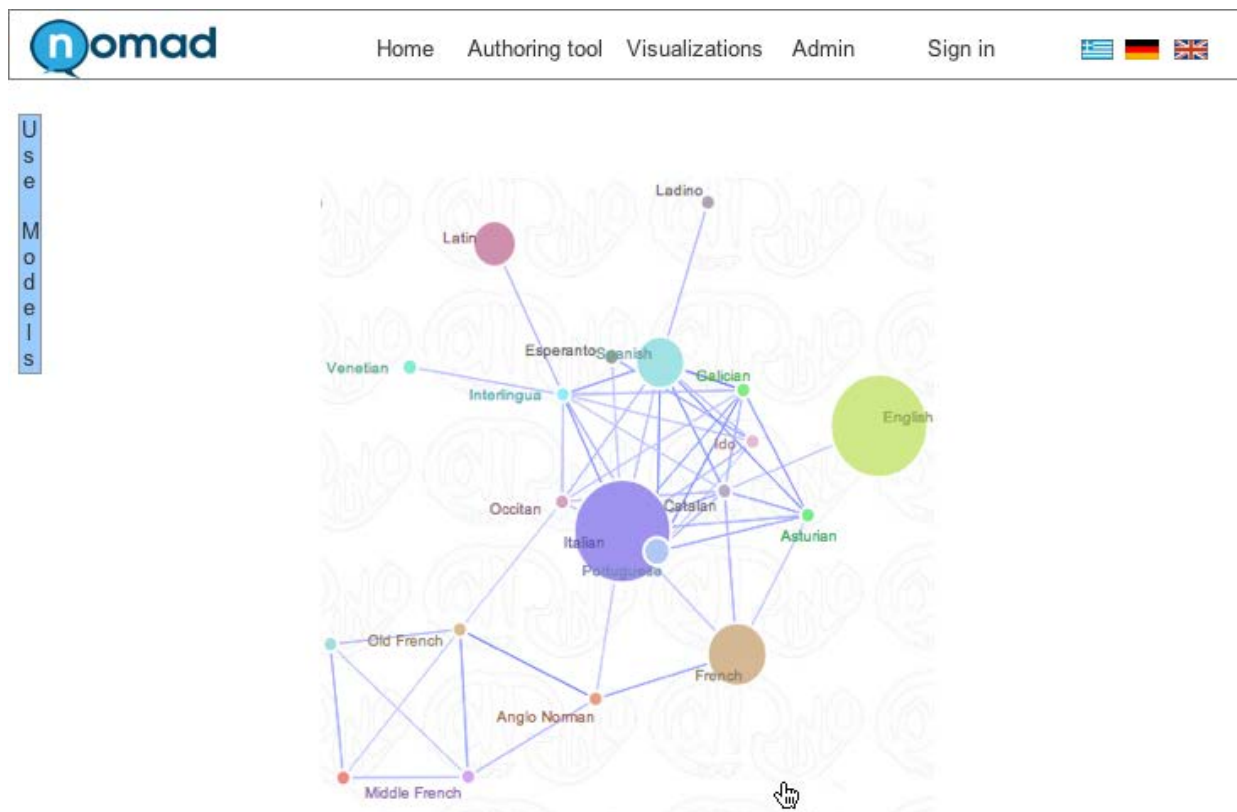


Figure 1: Visual Model of connected nodes (context free)

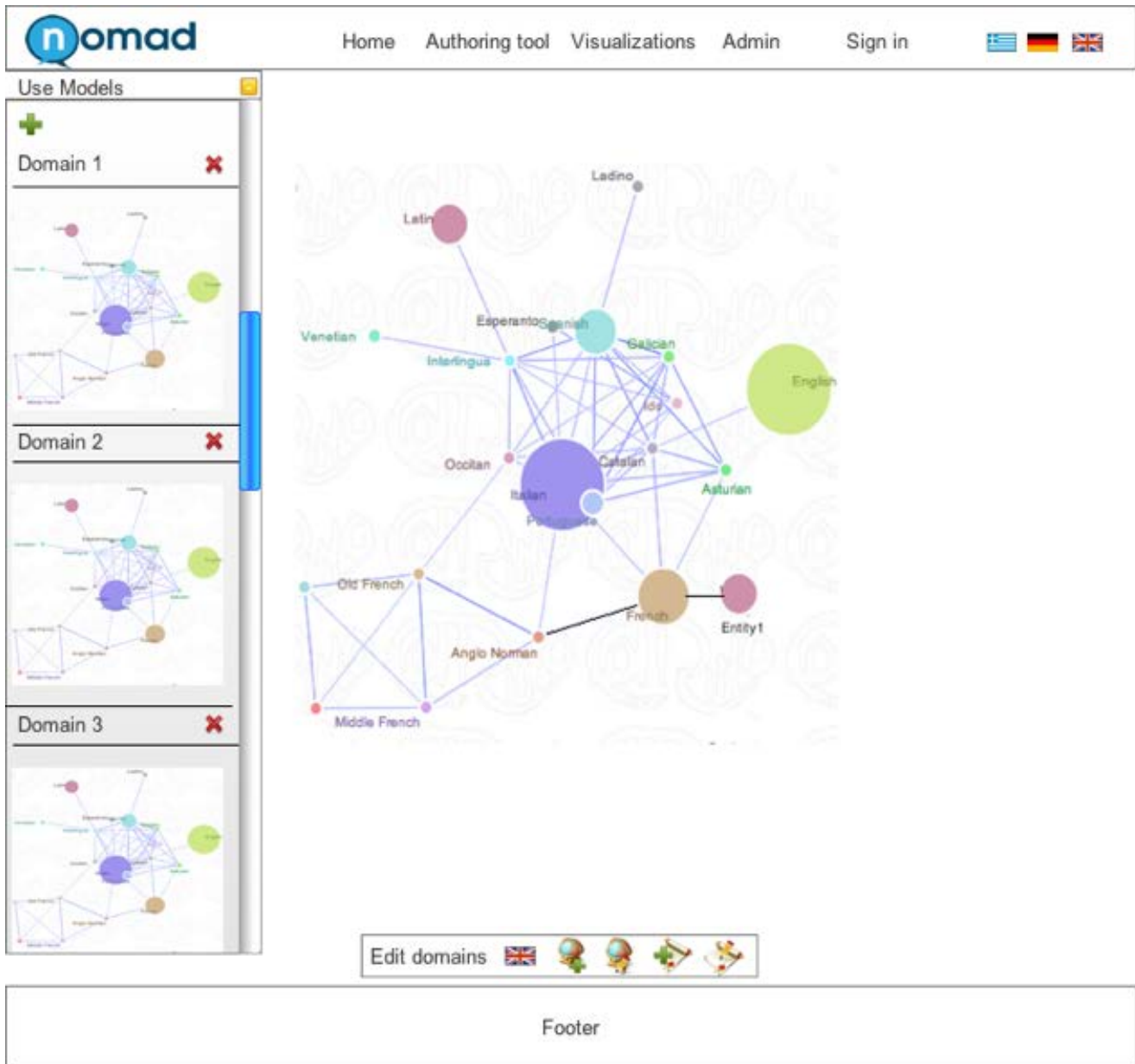


Figure 2: Web interface prototype for domain model selection

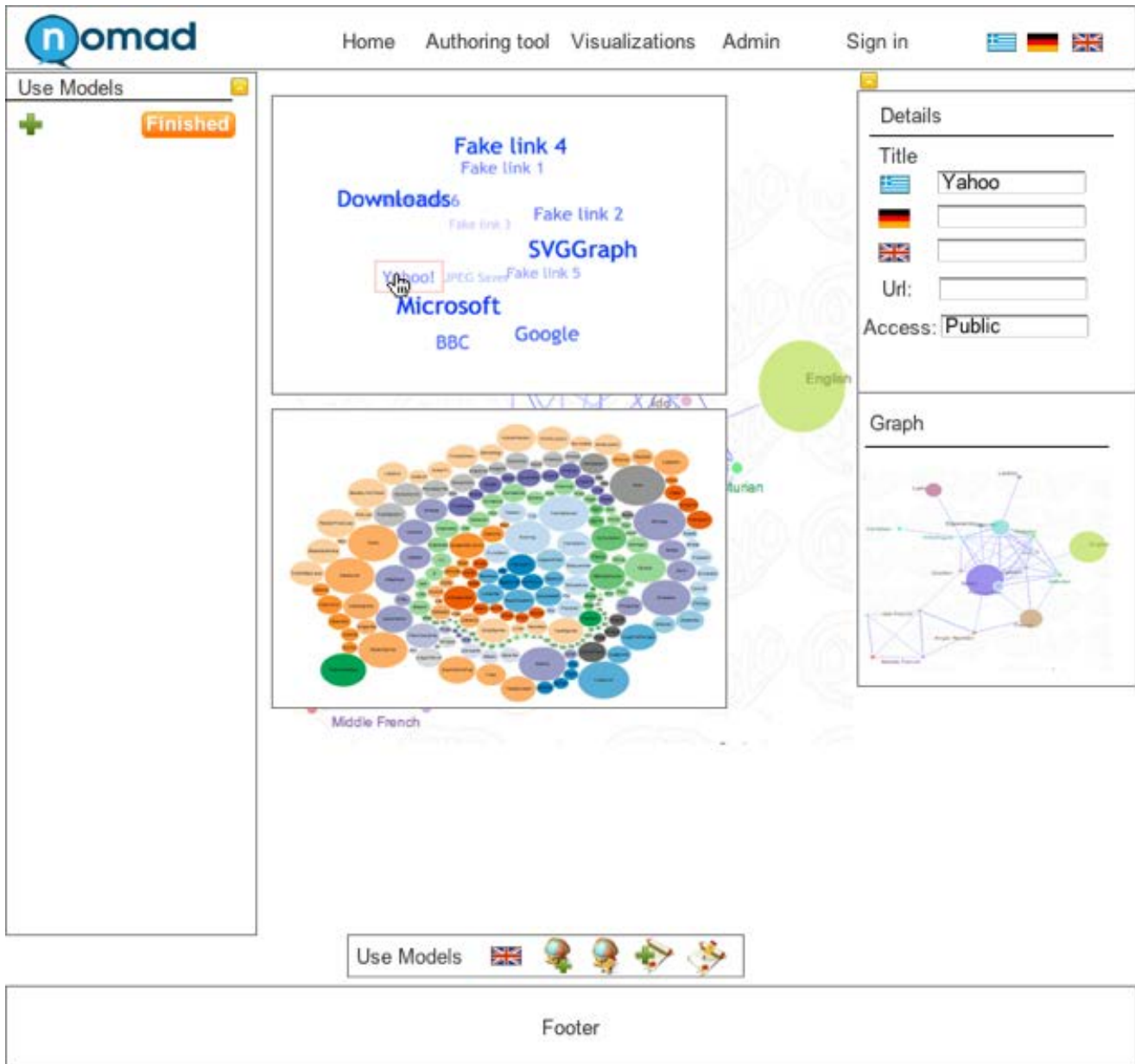


Figure 3: A prototype view of content-based model selection, also showing editing placeholders

The above were designed to evaluate interaction and to reduce complexity during the design phase. The conceptual design of the prototype was also introduced to users and testers in order to evaluate simplicity and ease-of-use. Figures 4 and 5 depict the concept prototype version, fully functional, using the real NOMAD data.

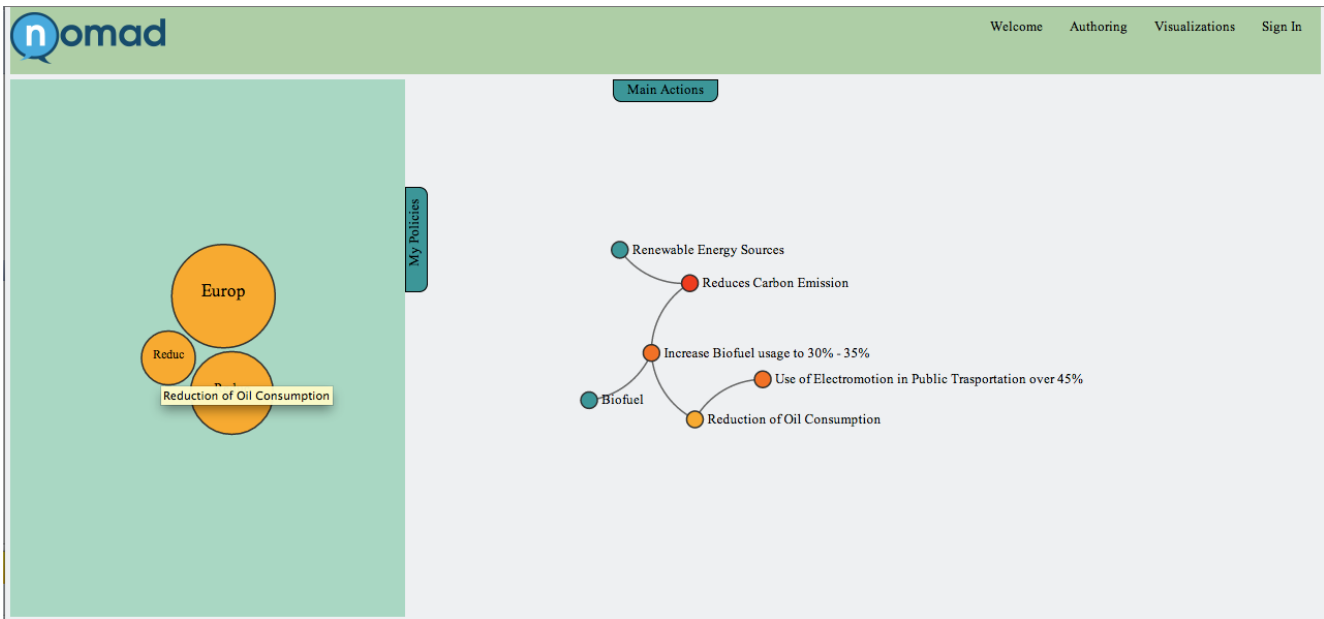


Figure 4: Policy modelling concept

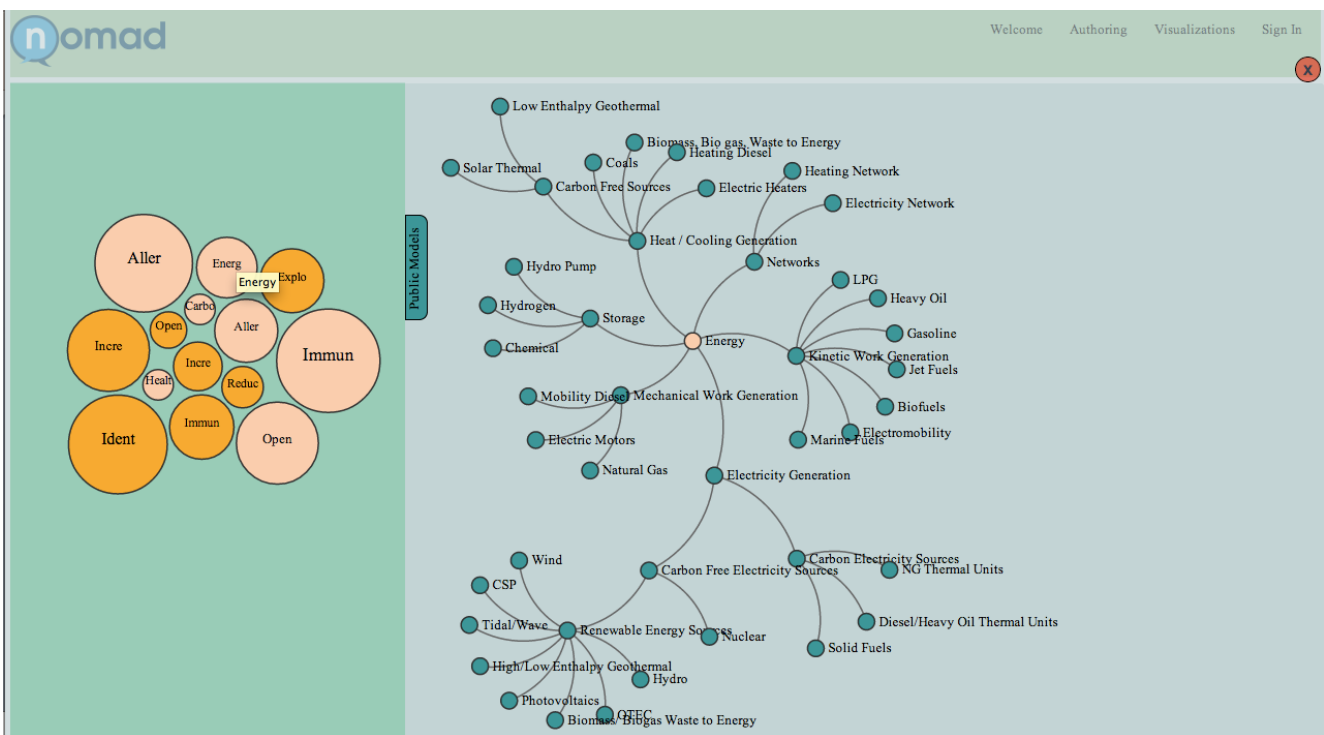


Figure 5: Domain modelling concept

The above testing, led to the final design that was available for public testing. Figures 6, 7, and 8, are screenshots from the final version. Figure 6 shows the domain modelling view and a list view of the new entities discovered by the NOMAD system. Figure 7 shows the policy modelling view and a list view of the new arguments discovered by the NOMAD system. Figure 8 shows the sources view, where the users may select their sources per type, manually start (if wished) the analysis process and monitor the progress.

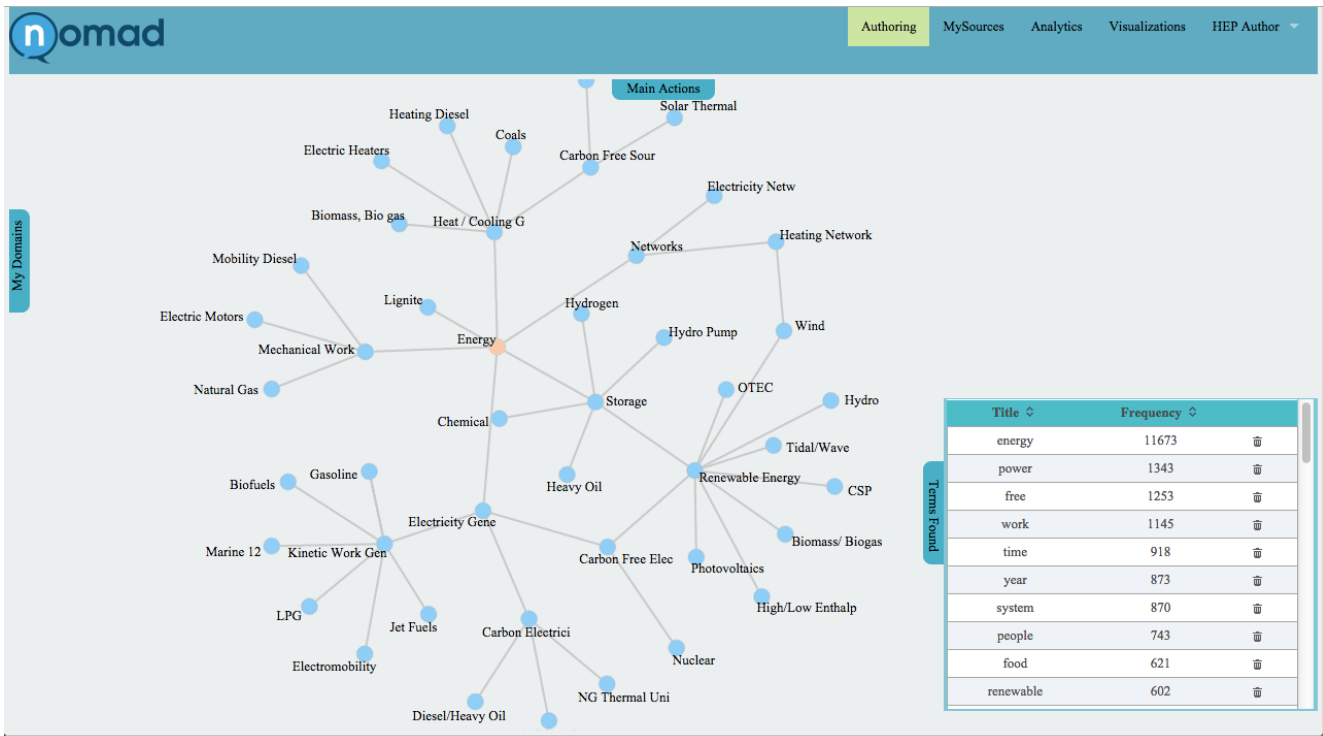


Figure 6: Domain modelling and new entities list (bottom right)

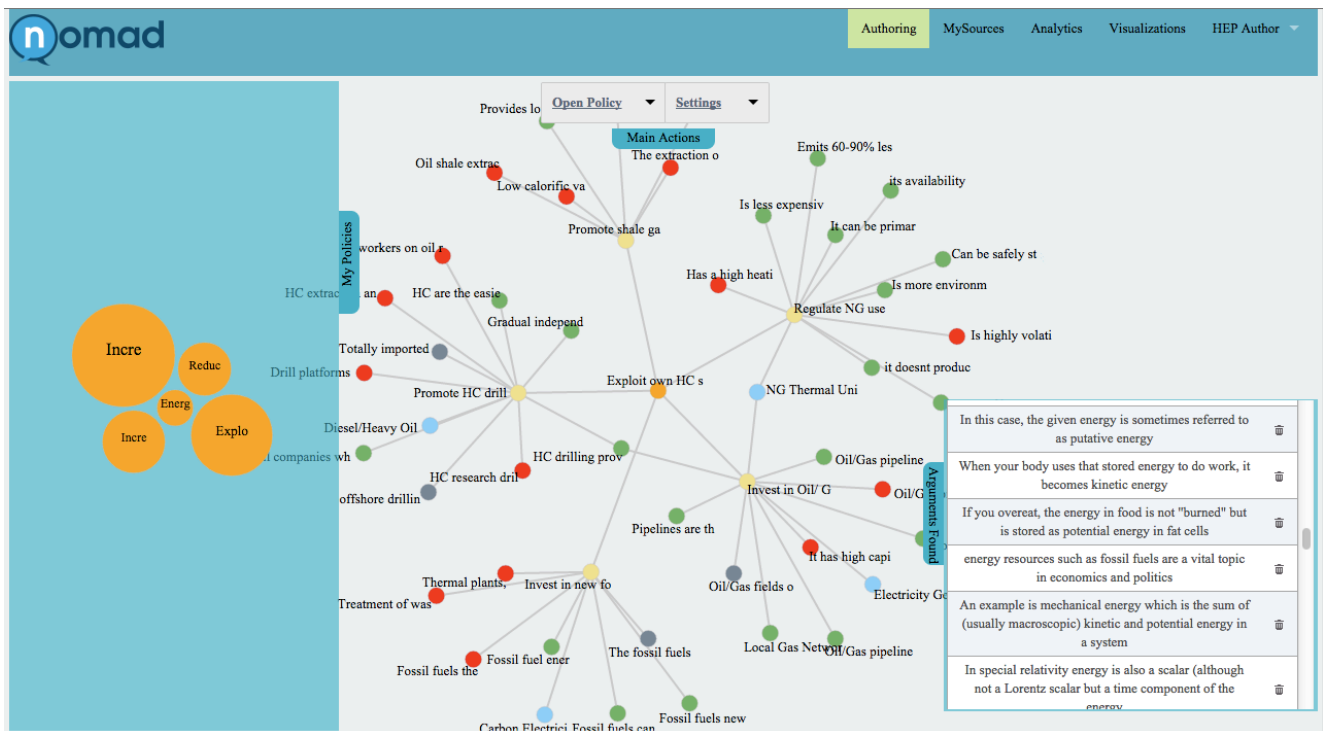


Figure 7: Policy modelling and new arguments (bottom right)

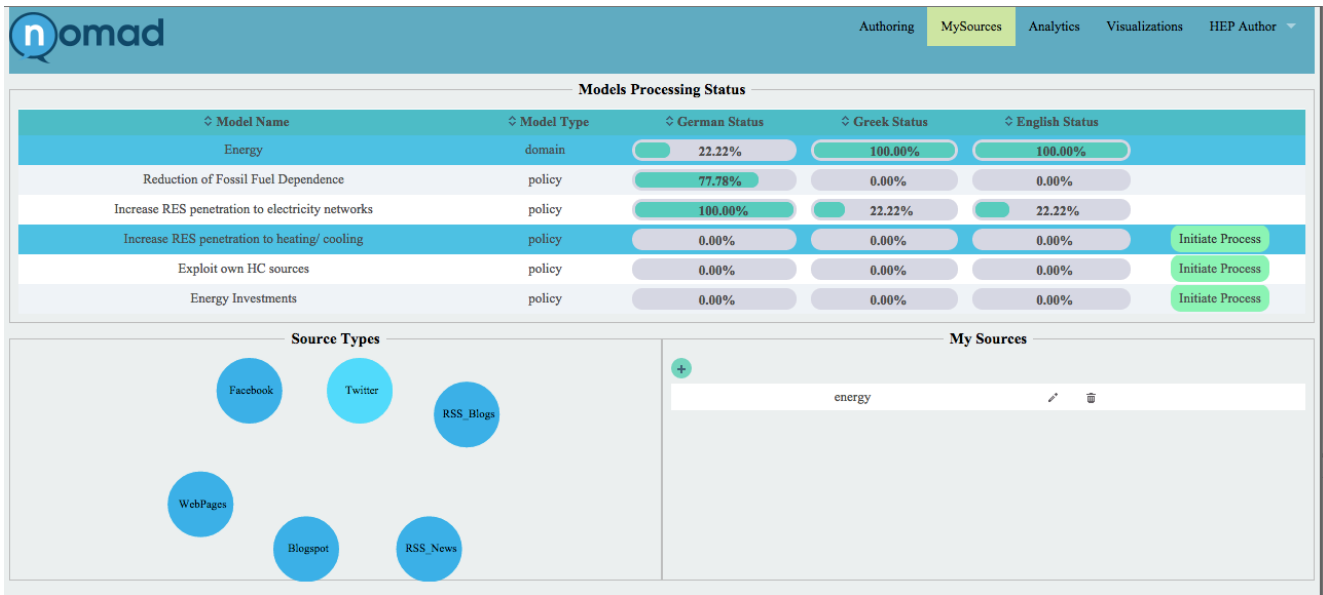


Figure 8: Source management and analysis progress

3. CONCLUSIONS AND NEXT STEPS

This is an accompanying document for the final version of Deliverable D3.3.2: *Argumentation Modelling Environment V2*, due M33. The document presented the procedure followed for the re-design of the user experience for the NOMAD Argument Modelling Environment that was used for the second and third set of the NOMAD pilots. The prototype environment facilitates specific functionalities in the NOMAD project pipeline and aims to integrate the experience of argument modelling for the policy makers to the NOMAD platform; aiming at the complete realisation of the NOMAD vision of having citizens' feedback collected from social media and organizing it into knowledge that can affect the policy formulation process at different levels.









The document also provides the user manual for the final Argumentation Modelling Environment as a full Annexe. The user manual information is also available and accessible from the NOMAD platform itself.

4. ANNEXE – User Manual

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Legend

	Domain
	Policy
	Entity
	Policy component
	Positive Argument
	Negative Argument
	Neutral Argument
	Selected node

Home page

Welcome to the “Authoring” page!

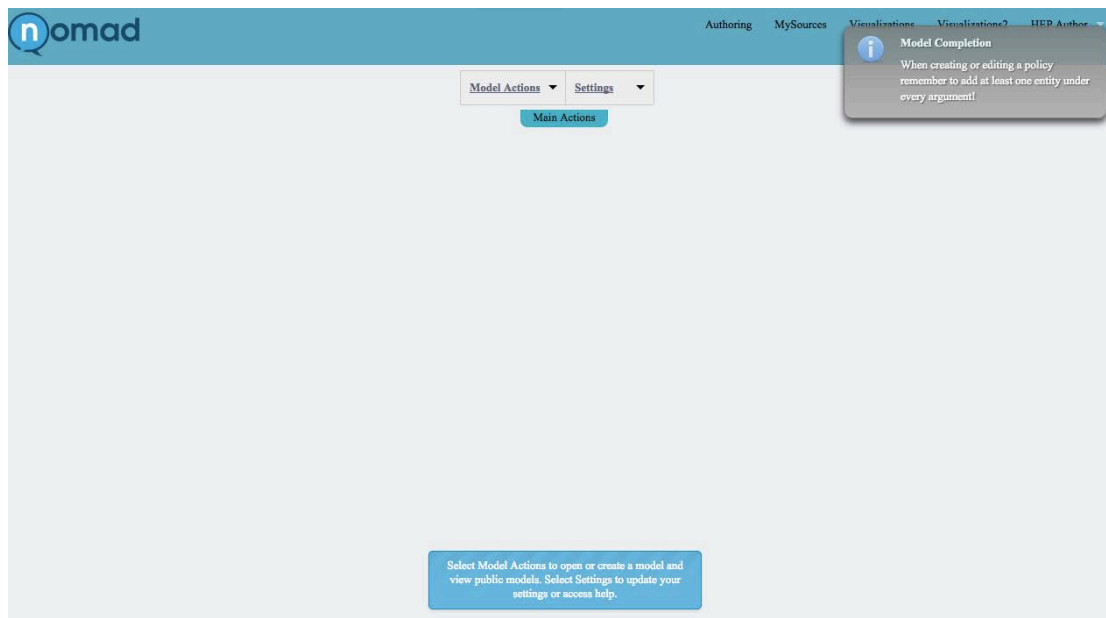
The authoring tool was tested successfully using Chrome v.38+, Firefox v32+, Opera 25+ and Safari 7+

The first view of the page contains the “main actions” panel at the top center, which opens automatically and holds the actions related to the models and the settings, an initial advice at the bottom center and a reminder about the policy model structure at the top right.

Tips like the first one appear as a response to your actions and act as advices for the next steps. The advice panel can be closed at any time by just clicking on it. The presence of the advices can be activated or deactivated at the settings section.

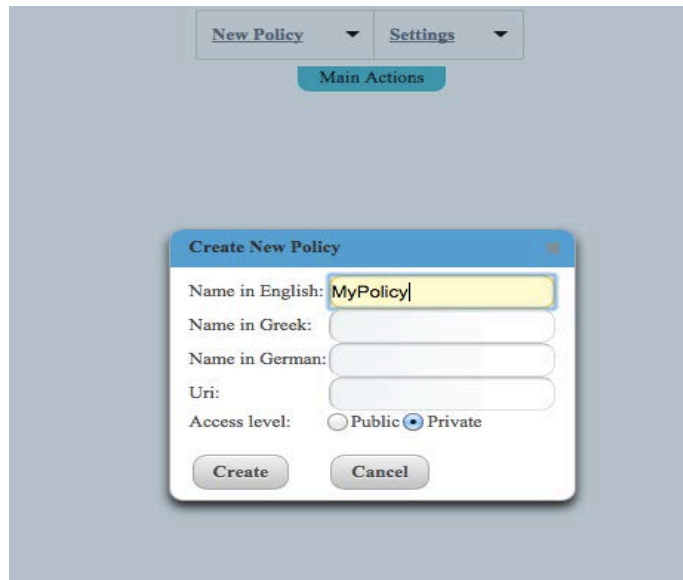
The reminder’s purpose at the top right corner is to make sure that you model a policy with a specific constraint in mind. By clicking on it the panel can disappear, while its presence can also be activated/deactivated at the settings section.

The model actions involve opening one of your domains or policies, creating a new one, or view public or your domains and policies.



New domain/policy

In order to create a new domain or policy, select “model actions” → “new domain” or “new policy”. A dialog appears that prompts you to enter the metadata of the new model to be created.



These metadata are:

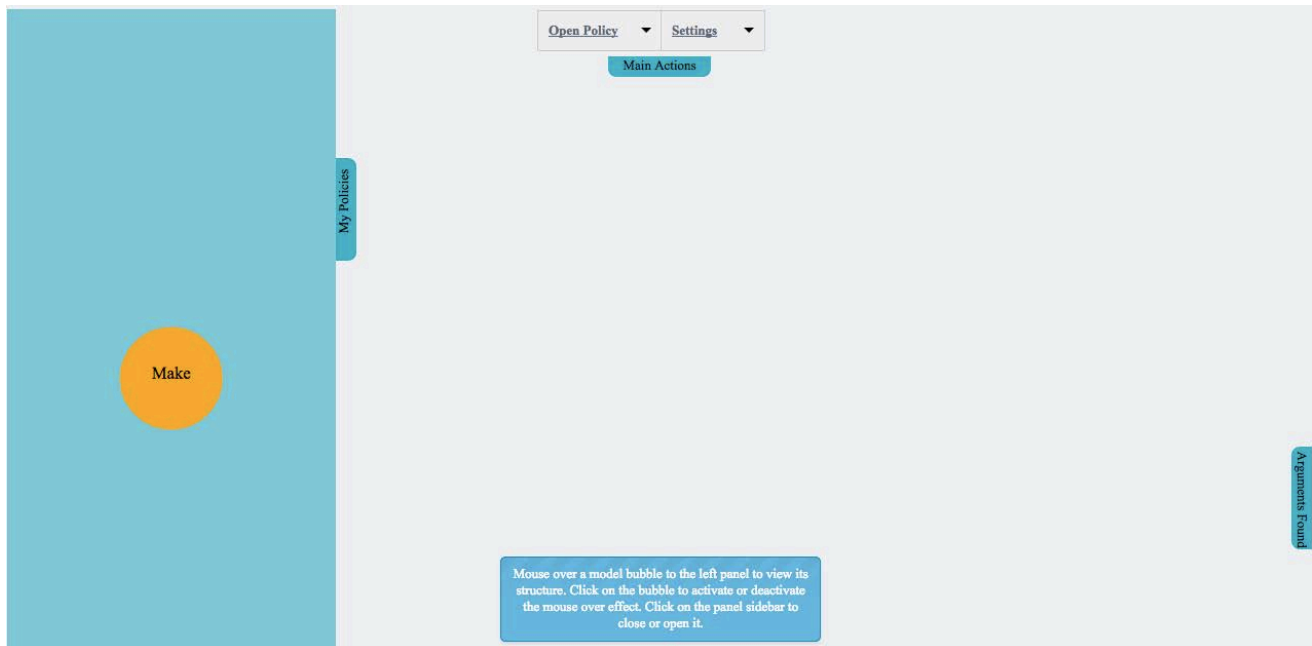
- The name of the new domain/policy in the three languages the system supports, that is, English, Greek and German. It is mandatory to complete at least one.
- An optional uri
- The access level of the model. Private means that the new model will be available only to you, public means that other users can view and use parts of your model.

When you are ready press “Create” and a graph holding the new node (root of your model) will be created.

Keep in mind that for a domain to be valid and be able to be crawled, it requires you to add at least 10 entities. The same way for a policy to be valid, it requires you to connect every policy component with at least one argument and each argument with at least one entity. Optionally the user may add one or more entities under policy components in order to achieve better results from enhanced analysis. The aforementioned validation is necessary to guide the crawling and analysis of the NOMAD system towards specific analysis targets.

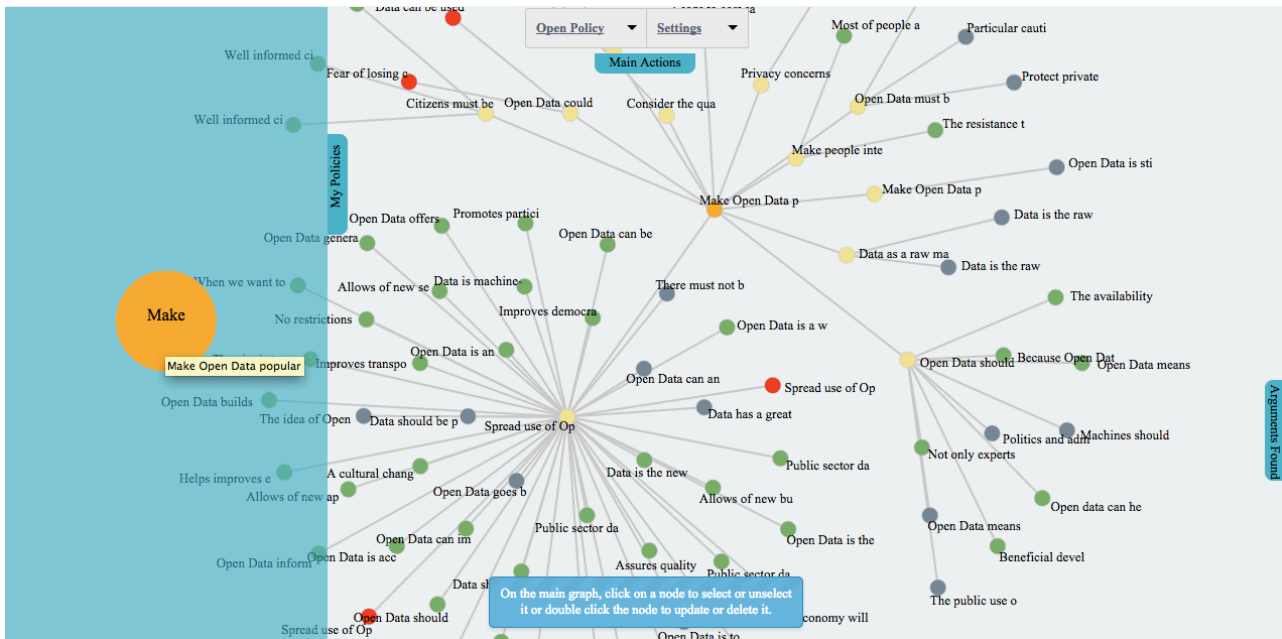
Open domain/policy

In order to open one of your models, select “model actions” -> “open domain” or “open policy”.



Upon selection at the left side of the page, a panel containing your domain/policies opens automatically. The domains/policies are in the form of bubbles and the size of the bubbles gives an indication of the policies total number of nodes.

Mouse over one of the bubbles to view the structure of the model it represents. The names of the models appear shortened in the bubbles, in order to view the full name, when you mouse over the bubble keep the mouse still over the bubble for a few seconds. In order to deactivate or activate the mouse over functionality, click on the bubble. When clicked the bubble changes colour to depict the mouse over functionality activation/deactivation.



Edit a graph

The actions that can be performed on a model graph are:

1. View a part of the graph in more detail
2. Select a node
3. Add a new node
4. Update a node's metadata
5. Delete a node
6. Add a link between two nodes
7. Delete a link between two nodes

Please note that upon first opening of the graph (policy or domain) the graph optimizes the node placement positions to achieve optimal clarity and readability for the user. This is intended behaviour.

Highlight node connections

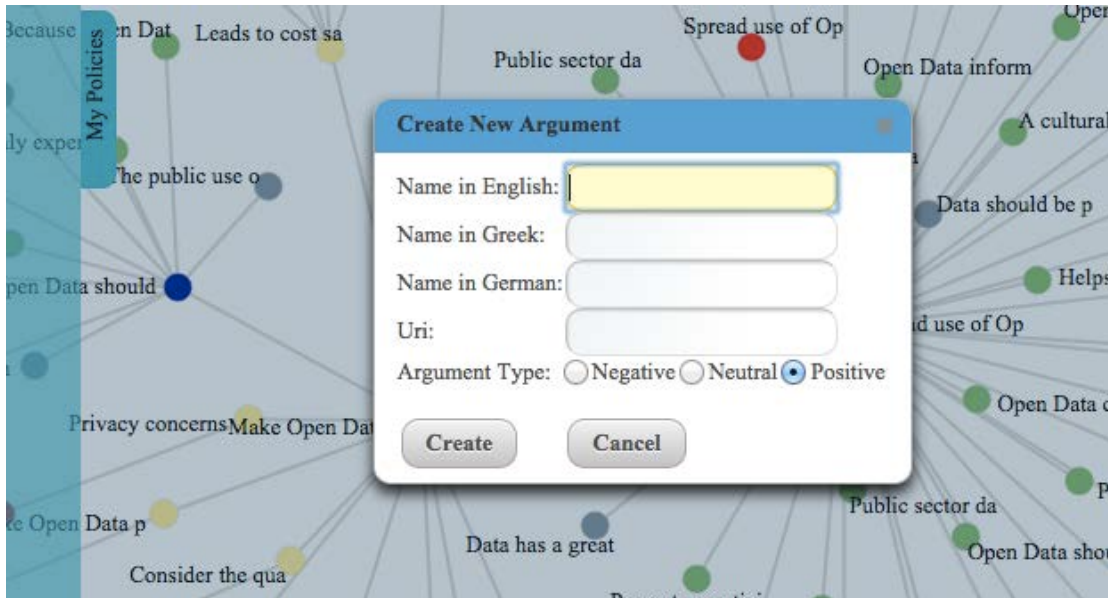
For viewing a part of the model's graph in more detail, mouse over a node and all of its connections are highlighted, while the rest of the graph fades away. The names of the highlighted nodes also appear in full text.

Node selection

A node is selected by just clicking on it. Upon selection the node's color changes to dark blue. Selecting a node is prerequisite for performing addition of a new node and addition of a new link between the selected node and another one.

Node addition

In order to add a new node, when you have a node selected, double click on the canvas. A dialog appears prompting you to fill in the node’s metadata.



The metadata depend on the node type that you are allowed to add as a child of the selected node. Fill in at least a name in one of the supported languages and press “Create”. The new node will be added to the graph and will be connected to the selected node.

The nodes that can be added based on the selected type are:

Selected node	Nodes that can be added
Domain	Entity
Policy	Policy component
Policy component	Argument, Entity (through other models)
Entity	Entity (only when editing a domain graph)
Argument	Entity (through other models)

Node update or deletion

To view a node’s metadata and update them or delete a node, double click the node you are interested in. The node will be selected and a dialog will appear presenting the node’s metadata.



At this point you can change the node's metadata and press "Update" to reflect the changes in the database, cancel and return to the graph if you have changed your mind or delete the node by pressing "Delete". In the deletion case a confirmation message will appear. Press delete to permanently delete the node or cancel to return to the "edit node" dialog. The changes will be reflected to the graph in any case.

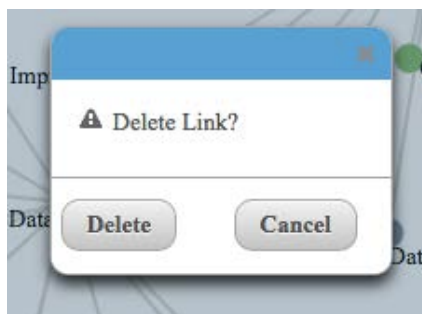
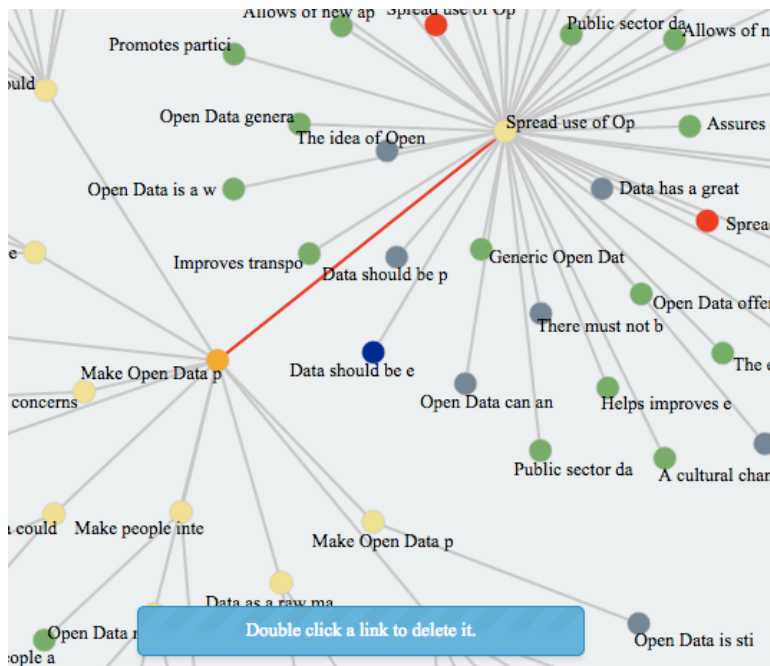
Add a link

A new connection can be added to the graph between a selected node and any other node in the graph according to the connection rules. The connection rules are the same as the addition rules defined in the Node Addition section. When you have a node selected click on a node of the graph. A new link between these two nodes will be created. While you have a node selected you can add as many connection you need by clicking on different nodes of the graph.

Delete a link

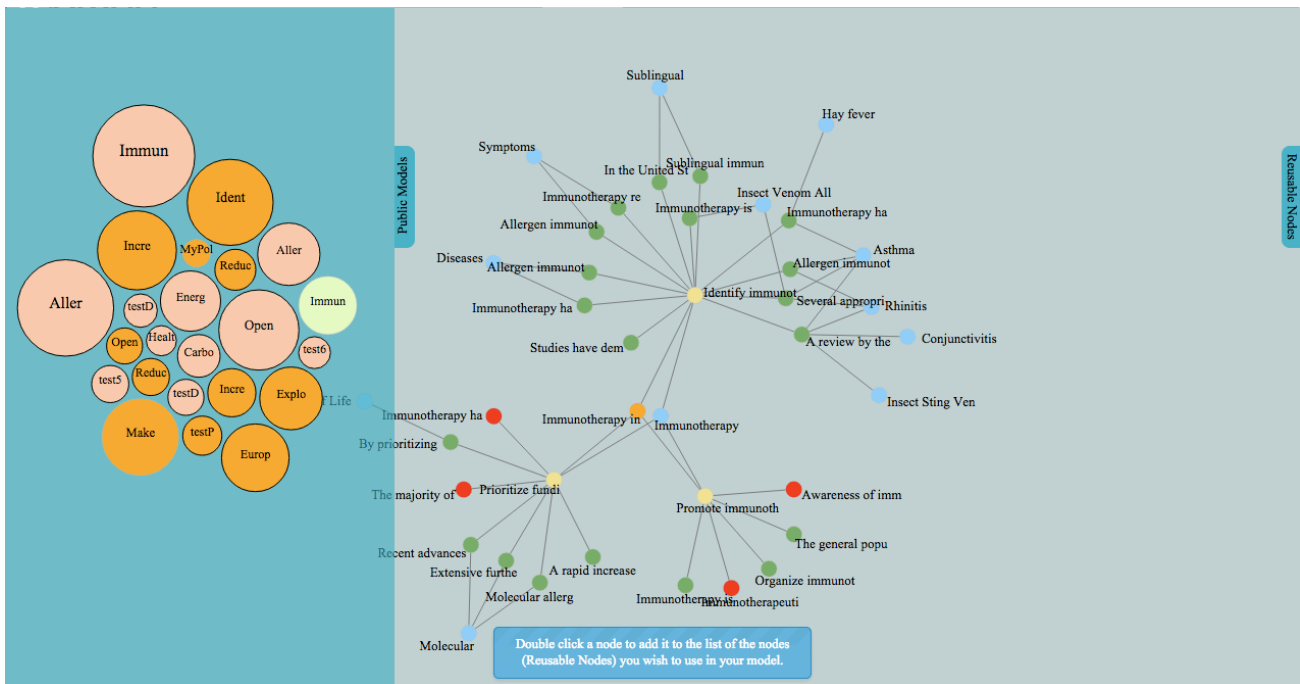
In order to delete a connection between two nodes of the graph, mouse over the link you wish to delete. When the colour of the link is turned red, click it. A confirmation

dialog will appear. Press the “delete” button for permanent deletion or cancel to return to the graph.



All models

This menu option will bring up a new panel where you can view models that are publicly available and/or your own models. The purpose of this panel is to give you a preview about the structure of the available domains and policies and reuse nodes of these models in your own. For viewing a model’s structure mouse over the model’s bubble. Clicking the bubble activates or deactivates the mouse over functionality. Pressing the “X” button on the top right corner will close the panel and return you to the main authoring page.



Reusing nodes

The graphs are not editable so the only action that is allowed is the selection functionality, which is done by double clicking the node. This results in putting the node in the list on the top right panel called “Reusable nodes”. The list can contain any type of nodes. Deleting a node from the list can be done through the “recycle bin” button in the row of the node you want to delete.

Type	Title	From
Red dot	The majority of funding derives from the industry, thus focusing only on part of the treatment's full capacity.	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies
Yellow dot	Identify immunotherapy safety, efficiency and cost-effectiveness	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies
Green dot	The general population will greatly benefit from increased awareness and use of allergen immunotherapy and it's potential	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies
Blue dot	Diseases	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies

Once you close this panel, the same “Reusable nodes” list is available to the main authoring page as well. Depending on the node that is selected on the graph, the reusable nodes rows in the list are highlighted white or red. White rows mean that the node can be connected to the selected node, while red that the connection is prohibited.

Type	Title	From
Red dot	The majority of funding derives from the industry, thus focusing only on part of the treatment's full capacity.	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies
Red background	Identify immunotherapy safety, efficiency and cost-effectiveness	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies
White background	The general population will greatly benefit from increased awareness and use of allergen immunotherapy and it's potential	Immunotherapy integration, as a key component in optimizing the allergic diseases cure strategies

A reusable node can be added to the main graph by clicking its row on the list when having a graph node selected. The new node will be added to the graph connected to the selected node.

Settings

The settings section contains your settings regarding the appearance of the advices or the warning message when the page loads, as well as the main language of the policies or domain.



You can activate or deactivate the text advices that guide you through the model creation process, by clicking the “Text tips” button. “ON” means that the feature is activated and “OFF” that it is not.

The same applies for the Model completion warning that appears every time you navigate to the authoring page for the first time.

The model languages list contains the three supported languages of the system. Selecting a language means that the model names and its node names, public ones or yours will be presented always at this language.

When you are ready just close the dialog by clicking the “x” button on its top right corner and the settings will be automatically saved.