Rubizmo

Business tool 3
Network tool

DELIVERABLE 5.3

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[1] PU = Public
PP = Restricted to other programme participants (including the Commission Services)
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Summary

This report provides a short summary of the computer-based network tool that is accessible through the RUBIZMO project webpage. It aims to primarily support regional development groups through gaining ideas on suitable network alternatives based on a database of European networks and through guidelines on network organization.

The development of the tool builds on the provision of network models from project partners and earlier European projects as well as on competences of the tool development group in organization management and software design.

The tool has several target groups who may have different interests:

1. *Policy*: Their interest is in information on models for rural development.
2. *Network initiators*: Their interest is in finding models they could use as blueprints for their own network initiatives and in receiving some guidelines for development.
3. *Members of existing networks*: Their interest is in finding suitable network partners.
4. *Enterprises*: Their interest is in finding suitable networks they could join.
5. *Research*: Their interest is in utilizing data for determining and analyzing criteria of success.

The tool is designed with dual dimensions of support: it provides an analytical framework of European networks which may provide blueprints for ideas on network developments in different scenarios as well as a tool for supporting network development.

The tool is prepared for a continuous improvement process which is expected to last beyond project duration. This includes the later extension by as many European networks as possible and the incorporation of additional functionalities for network development such as elements of the SWOT concept which analyses **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats of development alternatives..

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Table of Contents

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I - Background

The RUBIZMO project has aims to provide a supportive environment for understanding the contribution of networks for rural development and the establishment of networks based on experiences and an analysis of alternatives. In this context, it aims to provide a tool to support regional development groups and stakeholders from business, administration, research, or special interest initiatives with interest in networking activities.

The tool has several target groups who may have different interests:

1. *Policy*: Their interest is in information on models for rural development.
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Activities in the economy are almost explicitly based on exchanges between entities, being enterprises, institutions of all kind including those dealing with administrative issues or research activities, and society as the final recipients of all economic activity. Their exchanges constitute networks of economic activity. Depending on the focus of exchanges, networks are known under many different names such as, e.g., production chains, logistics networks, food networks, associations, interest groups, and many others. Some of them are active for a limited time and purpose only such as food networks where enterprises cooperate in placing new products in the market. Others are based on a more or less stable membership and designed for continuity.

Some networks have a formal structure (as e.g. those with joint product development activities) while others (and especially those limited to information exchange) are of an informal nature, a difference which might not reflect the stability of a network construct. In some instances, large informal networks (e.g. networks based on information exchange within a sector) might be based on an informal connection between formal networks or a formal network organization has informal links with other groups of interest. In addition, economic actors such as enterprises might be members of many different networks depending on interests and economic activity.

In summary, there is a wide variety of network structures and stakeholder involvements that could be of relevance for regional development. This requires a tool to define a focus within regional development interests. A baseline for clarifying the focus is provided by the RUBIZMO matrix, which involves two dimensions of interest, the sector of activity and the focus of cooperation. These dimensions will be complemented in the tool by concentrating on networks based on a formal

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network structure and on networks that build on cooperation between enterprises, enterprises and research, or enterprises, research and administration/policy (triple helix approach).

II - The RUBIZMO interest matrix: sector interest

With a view on sustainable regional development, the project has identified three sectors of major interest, the food sector, bio-based activities, and ecosystem services. These are all sectors that build on the resources available in rural regions. Rural regions are important for providing the base for agricultural production, for preserving the natural environment with its value for protecting diversity in response to society's objectives and for providing recreational functions for the urban population.

Food Sector

The food sector is based on agricultural production but reaches beyond including processing, distribution and sales. Developments in the past have separated agriculture from the subsequent stages of processing, distribution and sales which have moved to cities and the more densely populated areas. Agriculture as the remaining economic activity in rural areas and especially remote rural regions has two options for assuring sustainability in its long-term development. It

a) would need to assure that agricultural production as such remains competitive and
b) could re-integrate post-agricultural food production stages into farm activities.

Both developments pose challenges which can be dealt with through cooperation between enterprises who establish joint actions. The additional cooperation with research could provide appropriate support in the utilization of new technologies or business processes while adding cooperation with administration and policy could support in providing a supportive regulatory environment and an appropriate physical and digital infrastructure.

Competitive agricultural production

Without going into details, agricultural production is presently undergoing a technological transformation towards increased digitization characterized by keywords like "precision agriculture" or "robotics in agriculture". The technology is costly and drives cooperation between enterprises. All over the globe this transformation is driven by research developments and are dependent on appropriate digital infrastructure. As a consequence, enterprise developments require links to research and a supportive business environment which is a driver in the establishment of networks. Such networks may reach beyond enterprises and may include representatives from research.

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Reaching out into the food chain

The integration of later stages of the food chain into farm activities, is foremost focused on distribution and sales of agricultural produce. Online sales combined with varieties of innovative models for distribution with "farm delivery" or "consumer pick-up" concepts is an emerging and growing opportunity for networking among farms in rural areas. New network initiatives may also integrate consumers into the networks, establishing close rural-urban relationships.

Bio-based activities

With the emerging interest in utilizing renewable resources initially in energy production but later encompassing many other lines of production, a redirection of agricultural production to products for non-food use is receiving increased attention. It is obvious that such a development depends on cooperation between a variety of stakeholders:

1. Farms have to cooperate with one another for assuring the provision of sufficient quantities of products for non-food use that serves the need of processing plants.

2. The development of new product lines is still very dependent on contributions by research which asks for cooperation initiatives.

3. The development of an efficient and reliable production chain based on renewable resources requires close cooperation between farms and processing and even including distribution and sales.

4. New products based on renewable resources require regulatory acceptance by regulatory authorities regarding safety, stability etc.

Examples of engagements in bio-based activities are outlined in table 1. It is obvious that not all of these stakeholders need to be incorporated in a formal network arrangement. However, networking cooperation is supportive especially in early stages of development.

TABLE 1: EXAMPLES OF BIO-BASED ACTIVITIES

Crops	Products	Focus
A selection of utilized crops: Miscanthus, grass, hemp, sunflower, wheat, bamboo, Oilseed rape, cannabis, poppy, Potatoes, maize, lavender, algae, trees, etc., but also **residues** such as cereals straw, silo dust, chaff, corn cobs, pruning, grape marc, olive pits, etc.	Bioethanol, biodiesel, pellets, etc.	Biofuels, bioenergy
	Building blocks, insulation, paints, varnishes	Building, construction
	Paper, packaging, rope, fabric, padding	Fiber
	Drugs, medicine, vitamins, minerals, nutritional supplements	Pharmaceuticals
	Plastics, packaging	Biopolymers
	Oils, Enzymes, printing ink, paper coatings	Chemicals

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Eco-system services

One of the “values” of especially remote rural areas is the unspoiled nature and the interest of society and the urban population to protect these environments and to utilize them for recreational purposes. Both initiatives are very much dependent on cooperation between stakeholders.

Activities for protecting certain environments requires engagements by those involved in landscaping including farms or forest managers, in wildlife management, in water management, in access control or other related activities. Developing areas for recreational use may include many more actors especially if a certain region is supposed to become attractive for the urban population. The coordinated availability of public transport, accommodation opportunities, restaurants, cultural events, tour offers, etc. asks for cooperation among a variety of different groups who usually are not connected through their basic economic activity.

As a consequence, such networks are usually not evolving from a “natural” need but are usually dependent on the engagement of a network initiator as e.g. an administrative regional development agency.

III – The RUBIZMO interest matrix: focus interest

Generally, the establishment of a network is a response to a need. Within the RUBIZMO project, the interest in networks for support in rural development is focused on 4 domains which represent a very broad range of possible needs for network initiatives. They involve cooperation interest towards support related to
a) new products or services,
b) new technologies or business models,
c) the exploitation of waste or unused resources, and
d) the exchange of knowledge and information.

New products or services

Cooperation in the creation and marketing of new products or services is a well-established reason for the organization of a network. The production or marketing of new products or services involves risks due to limited experiences. Enterprises might cooperate to reduce the risk for individual enterprises. Cooperation with research allows the utilization of experimental studies, the analysis of risks and opportunities or market and consumer studies.

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New technologies or business models

Cooperation in the utilization of new technologies and the move to new business models has received increased attention due to the need for the implementation and use of information and communication technologies. Their use does not just involve a change in technology, purchasing, production, marketing or consumer communication but asks for a change in an enterprise's business model. While earlier stages of technology adoption were very much linked to improve traditional business models as e.g. book keeping or order management, later stages involving e.g. online sales or robotic-driven production systems ask for a complete overhaul of traditional business models. Such developments initiate a need for cooperation not just between production enterprises but also with technology suppliers and research organizations.

For utilizing the full potential of new information and communication technologies, enterprises need to cooperate with their suppliers and business customers within the value chain. Exchange of information between stages of the chain requires agreements in content and technology. This vertical cooperation is usually organized through agreements within industry associations which represent networks as well. Such associations are active in sectors as a whole but also in specific sub-sectors such as in the production and delivery of organic food products.

Exploitation of waste and unused resources

The exploitation of waste is less generic than the focus domains above, but it touches a most relevant focus which is receiving increased attention as one of the solutions for assuring "food for the world" (http://www.fao.org/food-loss-and-food-waste/en/). It is linked to keywords like "circular economy" (https://en.wikipedia.org/wiki/Circular_economy), which represent major food development policies in countries. A basic and old established utilization of waste is in the production of energy. However, present initiatives focus on the utilization of waste in the production of new products e.g. in construction or in the extraction of valuable materials like enzymes, vitamins, proteins, minerals etc. There is no single sector where the avoidance, reuse or exploitation of waste is not of major concern. The reuse and exploitation of waste is also a major topic in research which makes it a natural partner in business networks established for dealing with waste.

Exchange of information and knowledge

The exchange of information and knowledge is a driver in all networks and network initiative interests. However, network cooperation with the sole focus on the exchange of information and knowledge is common in situations, where

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a) business groups intend to keep informed on developments in their business environment and engage in exchange among peers on common problems and issues, and
b) business groups which want to keep in communication lines with research for receiving first-hand information on developments and future business opportunities.

It is a common situation that networks of all kind move through different phases with the first phase focusing on the exchange of information and knowledge before a further intensification takes place.

IV – Considerations for tool development

The RUBIZMO matrix identifies the network domains of interest to regional development and the provision of a tool in network support. We are of the opinion, that support in network organization for regional development has to build on available experiences. Networks have been established all over Europe in different countries, with different languages and in a broad range of situative conditions.

This is a tremendous source of experiences if made available for support. The concept of the tool aims at tapping into this source and combines it with some guidelines on the establishment of a network involving proposals for organization, management and the provision of services.

The network experience

For utilizing European network experiences in developing own network initiatives, the tool concept links known networks to a variety of structural and impact categories that allow regional development groups to best identify networks that fit their needs. A “best fitting” network could serve as a first blueprint for own network initiatives. In addition, the specification of the country of origin and a contact address facilitates the realization of personal visits for first-hand clarifications and communications and clarifies the language necessary for communication.

The list of structural and impact categories is open to dynamic changes and extensions. This allows flexible adaptations to changing interests and newly evolving network organizations not yet known from the past. The initial list integrated into the tool is based on developments known from previous European projects, especially the NETGROW project which focused on the analysis of European projects and was discussed with project partners regarding its present validity.

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The network database

The tool aims to develop a network database which includes a representative number and variety of examples of networks throughout Europe. In its initial version established for the RUBIZMO project, the tool integrates networks from two different sources:

1. The NETGROW project analyzed network from all over Europe and provided information on their link with structural and impact categories (https://cordis.europa.eu/project/id/245301/reporting/de). All these networks were analyzed again in tool development by proQ using the available information in the networks' websites. Networks that were still active were integrated into the database with updated information regarding contacts and link with categories.

2. In the initial phases of the RUBIZMO project, project partners identified European examples of "future economies" summarized in deliverable 1.2 prepared by proQ. In fact, almost all examples for "future economies" involved network arrangements either network arrangements already in place or network arrangements envisaged in policy development plans. In developing the tool, fitting examples were integrated into the network database by proQ utilizing the criteria framework in place.

As a follow-up initiative, all network contacts have been contacted for verifying the network data. This concept will be repeated on a regular basis to assure network data represent reality. Apart from this, all data in the tool are data taken from public sources.

It is a further ambition of tool development to approach networks across Europe for participation in the tool database. To the end, the tool has integrated functionalities for easy changes and extensions of the network database requiring no programming competence. At this time, these functionalities are for internal use only. However, it is planned to provide versions that can be used by network representatives themselves.

Network development support

Based on an identification of most suitable networks from the database as blueprint example and source of further information, the tool provides additional information for development support some of it linked to the project's reports D5.1 and D5.2. It guides users to three lines of additional information to choose from:

1. Networks can utilize different **forms of organization**. The tool describes alternatives and provides links that guides to additional information in literature or internet sources. *For developing a network model, the user is asked to choose one organizational alternative.*

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2. Networks may integrate different **managerial concepts**. The tool describes alternatives and provides links that guides to additional information in literature or internet sources. *For developing a network model, the user is asked to choose one or several managerial concepts for implementation.*

3. Networks may offer different **services** to its partners. The tool provides an extended list of alternatives. *For developing a network model, the user is asked to choose one or several services for implementation.*

This part of the tool is part of a dynamic development process dependent on feedback from users on support needs. One of the concepts under discussion for implementation within the project phase involves the integration of a planning element based on the SWOT analysis concept which analyses **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats of network initiatives (https://en.wikipedia.org/wiki/SWOT_analysis).

V - Ambition beyond project duration

It is the ambition of the RUBIZMO consortium and in particular of proQ as partner responsible for the development of the tool that its use can be assured beyond the completion of the project as a comprehensive source for network models available in Europe. This would not only allow overviews on what is available but also facilitate interaction between networks and support network cooperation.

This ambition would require financial and non-financial support. As it is not expected that the tool itself will be able to generate financial support from use, an active continuation beyond project duration would require either
a) public support or
b) the utilization of advertising opportunities.

While the first alternative is preferable, the tool has reserved space for realizing the second option in due time. Initiatives within the project may come up with additional proposals.

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Appendix: Overview on the functionalities of the tool

The use of the tool is limited to people who have registered for its use. In opening the tool, the user is guided to an overview on what the tool might be used for and provides a selection menu which allows the user to choose between the 2 major opportunities for its use (figure 1):
1. Entering the search procedure
2. Receiving guidance for establishing a network

This is complemented by a guidance system for using the network tool.

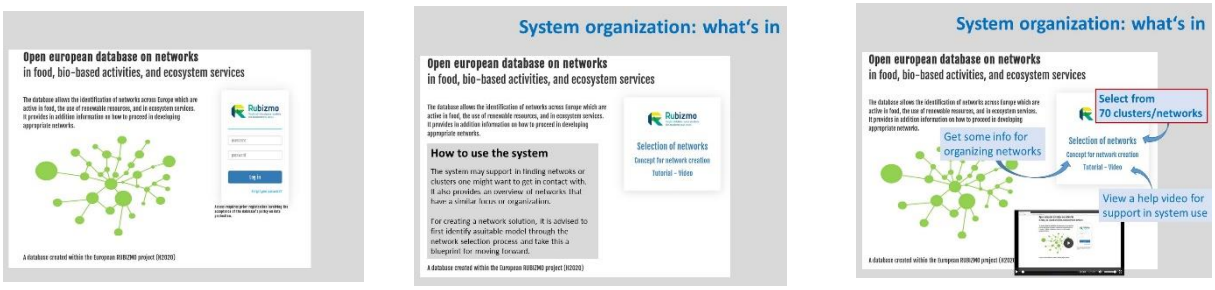

Figure 1: Opening screens for login, guidance for use, and selection of functionalities.

Part 1: Searching for a network

The search is based on 3 ways of identifying a network. The initial identification builds on a matrix (the "RUBIZMO matrix") which allocates a network according to sectors (rows of the matrix) and focus (columns of the matrix):

Sectors: Food, Bio-based activities, Ecosystem services.
Focus: New products or services, New business models or technologies, Exploitation of waste and unused resources, and Exchange of information and knowledge

The matrix itself displays the number of networks that fit into the cross-section of sector and focus (figure 2). The tool allows different search specifications such as:

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1. A sector with one focus area.
2. All networks within a specific sector.
3. All networks with a specific focus.
4. All networks

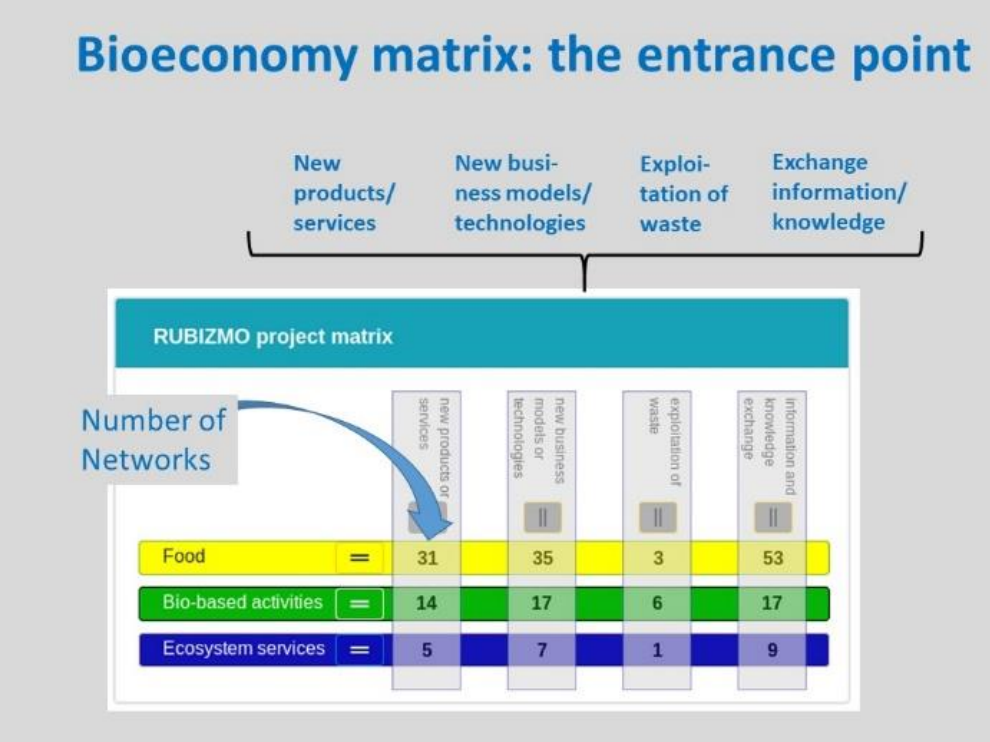

Figure 2. RUBIZMO matrix

By selecting any of these alternatives, the tool identifies the countries those networks are allocated in and, in addition, the indicator categories represented in the networks (figure 3) clustered under the headings of typology (network typology), impact, and cooperation model (table 1).

Based on the initial selection through the matrix, the further steps for identifying suitable networks could either focus on individual countries, or on the indicator categories. For getting acquainted with the tool, it is suggested to follow the country line. If a country is selected, the tool

a) lists the networks which are active in the country and reflect the selection used in the RUBIZMO matrix and
b) highlights the indicators in the indicator categories which are represented by the listed networks

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Table 1
Indicators and their background

Typology (derived from European NETGROW project)	**Meaning…**
Competence building network	Focusses on providing training programs for CEOs of SMEs
Business support network	Connects companies in order to achieve a better business performance
Sector cooperation network	Focuses on one sector. The network members work together further integrating their supply chains and/or investing jointly in advanced technologies
Cross-sector cooperation network	Focuses on cross-sector/cross-industry collaboration. Network members collaborate with partners from other sectors within the industry and/or outside the industry.
Project cooperation network	Centralized learning network providing members with joint R&D-projects for innovation development.
Knowledge exchange network	Decentralized learning network where members come together to exchange ideas and experiences rather than participating in joint projects.
Collective competence and research network	Providing industry with the research, technical and advisory services needed to ensure product safety and quality, process efficiency and product and process innovation.
Impact	**Included elements: Impact on …**
Improving market access	Logistics
	Marketing
Improving production development	Production
	Diversification
Improving shared values for regional development	"Shared values" (whatever)
	Urban/rural integration
	Revitalizing rural area
	Conservation of resources
	Rural development
Improving business development	Promoting innovation
	Promoting entrepreneurship
	Technology transfer
	Business development
Improving information/knowledge	Information sharing
	Gaining competence
Improving employment	Employment
Improving finance access	Finance
Cooperation categories	**Participants**
Enterprises only	Enterprises only
Enterprises and policy/administration	Enterprises and policy/administration
Enterprises and research	Enterprises and research
Enterprises + research + policy/admin.	Enterprises + research + policy/admin.

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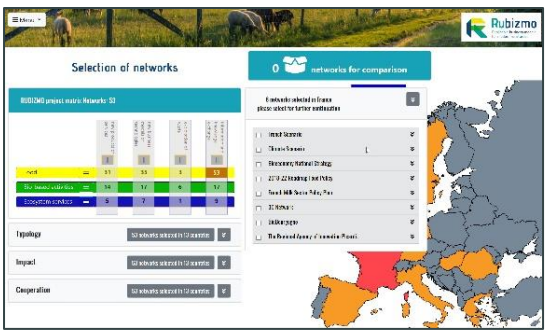
With this functionality, a user receives an overview of the networks that (a) belong to a selected sector, (b) have a specified focus, (c) are located in a certain country, and (d) represent certain indicators (figure 3a).



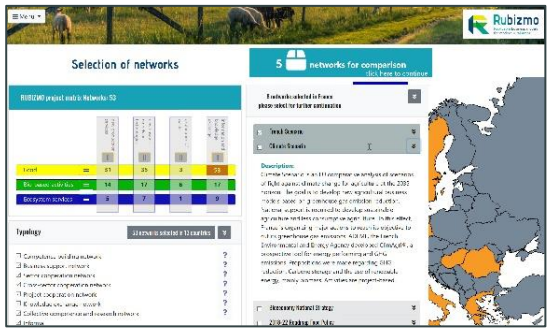


Figure 3a and 3b. Selection of networks for further consideration

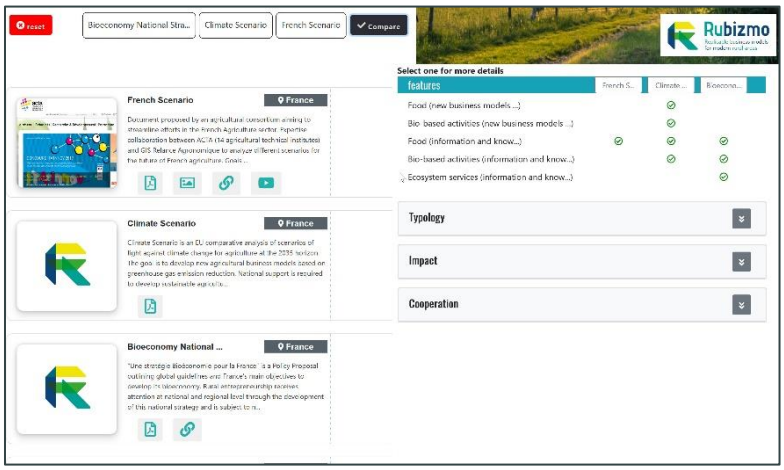
A user can select one or more of the listed networks for further consideration. This step can be repeated for additional countries until a selection of networks for further consideration fulfills the interest of a user. For facilitating the decision on which network to select for further consideration, the tool offers the possibility to look into a short description of networks (figure 3b).

Subsequently, the networks selected for further consideration are outlined in detail in a summary presentation which allows to open related documents, graphs or videos (figure 4a and 4b).

A further selection of networks can be placed in a comparison table which allows comparisons according to all selection criteria (sector, focus, country, indicators). For each one of the networks in the comparison table the tool can provide a summary information sheet (screen) that includes all information available for the network and can printed out for further considerations.

4a

4b



4c

Figure 4a-4c. Information and comparison of selected networks in support of analysis

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Part 2: Network development

In preparation for the initiation of a network, the tool proposes three issues that needed clarification,
a) the organization model,
b) the management approach, and
c) the service environment.

For each one of these alternatives, the tool offers alternatives to choose from. Selecting one organization model, one or several management concepts and a number of service opportunities provides users with a first draft of a *network development plan*.

Organization models

The organization models determine the internal structure, the participants, the leadership concepts and similar issues. They include (see figure 5) alternatives that are named as
a) business networks,
b) business clusters with a regional focus,
c) triple helix model,
d) virtual enterprise,
e) innovation pole, and
f) science parks.

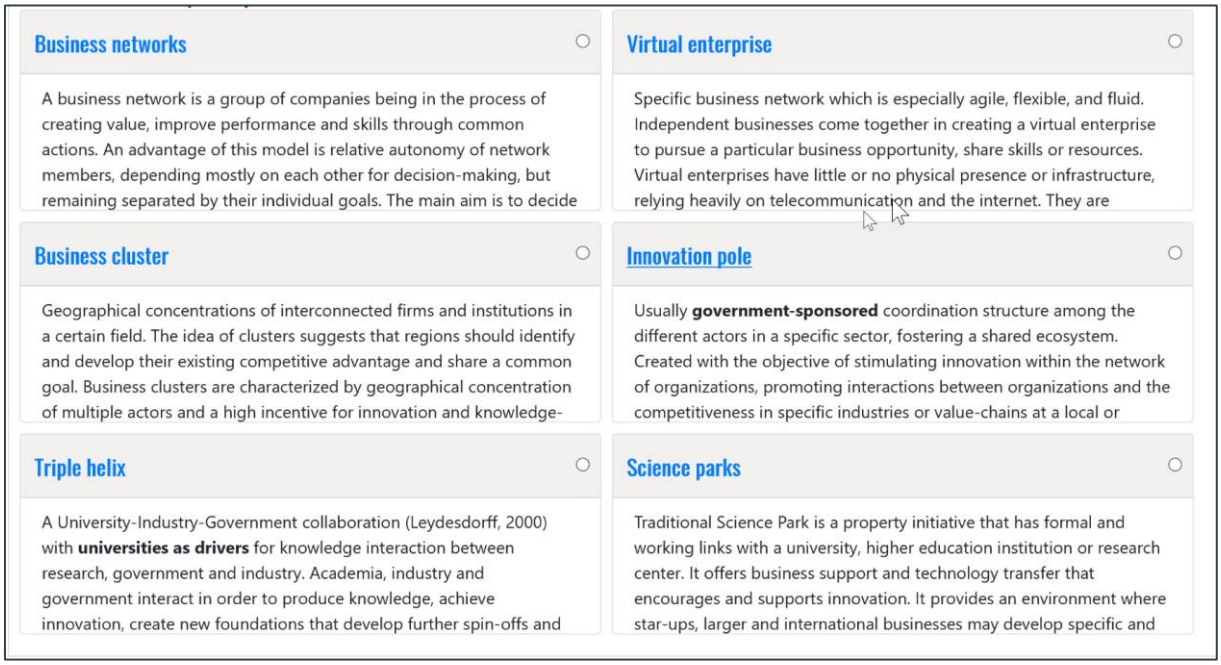

Figure 5. Screenshot of entrance point for detailed information on organizational alternatives (more information “behind” the headings).

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Apart from a description of the organizational concept, the tool provides additional contacts such as internet information sites and more. A network is usually linked to one of these alternatives.

Management concepts

The management concepts selected for presentation in the tool (figure 6), focus on different management aspects such as the selection of goals, the clarification of the legal or financial structure, or the organization of member involvement. A network initiator would select all management concepts of interest as a basis for a suitable development plan.

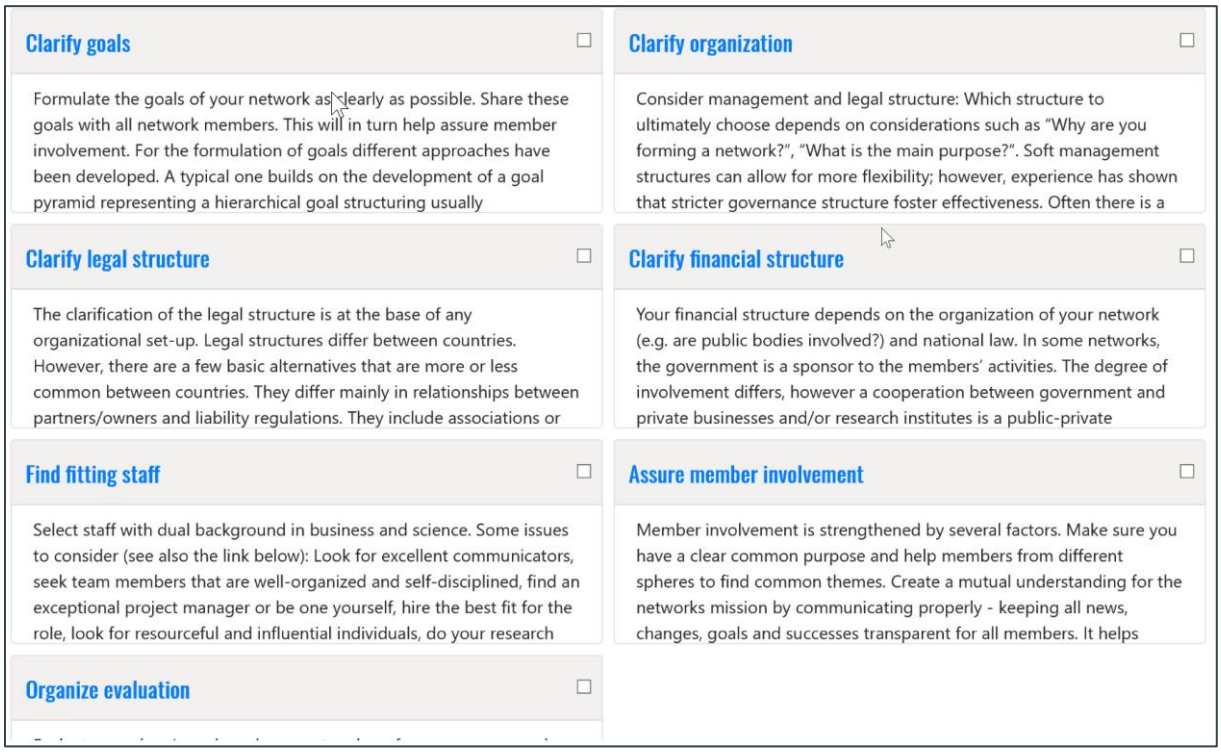

Figure 6. Screenshot of entrance point for detailed information on managerial opportunities (more information behind the headings).

Service opportunities

Networks are justified by their services. There is no limit in the provision of services. Service opportunities gain from a network situation either through a gain in efficiency or by building on cooperation among members. Efficiency gains are relevant for services to members which, in principle could be offered outside a network environment as well. An example could be the provision of advice in e.g. financial affairs. Services that build on cooperation among members could deal with co-operations as e.g. in marketing or product development.

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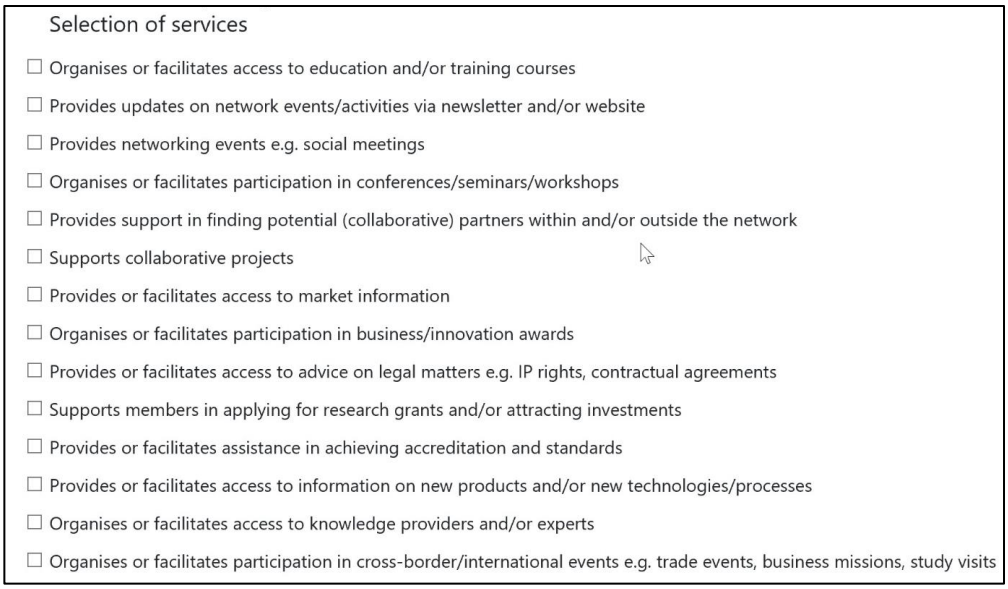

Figure 7. Screenshot of available service opportunities

Concluding remarks

The network tool is designed as a tool for providing transparency on network initiatives towards regional development and for initiating ideas for the establishment of networks that serve certain needs. For reaching its goals it needs acceptance by its diverse target groups involving *Policy, Network initiators, Members of existing networks, Enterprises, and Research.*

This asks for a continuous exchange with the target groups in evaluation rounds. The project monitoring and evaluation activities provide the base which needs to be continued beyond the duration of the project. As a consequence, content and functionalities of the tool will have to be adjusted in line with feedback to needs.

The presentation in this report is a picture of the present situation which might change in the months to come. Any changes will be documented in an updated version of this report towards the end of the project.

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