

# Guideline for the ONLINE S3 toolbox

## Tool/application Online S3 Platform

### Clusters, incubators & innovation ecosystem mapping

ONLINE S3 – 710659 – Guidelines for the pilot experimentation phase



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## HISTORY OF CHANGES

Version	Date	Contributing partner	Summary of changes
Version 0.1	2016-10-07	RIM	Structure of the document, elaboration of required information as a template for all tools
Version 0.2	2017-08-08	AUTH	Filling of the template with information regarding the Clusters, incubators & innovation ecosystem mapping application

## DISCLAIMER

The opinion stated in this report reflects the opinion of the ONLINE S3 consortium and not the opinion of the European Commission.

## ACKNOWLEDGEMENT

This document has been elaborated within the framework of the ONLINE S3 project, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 710659.

## BACKGROUND AND RATIONAL

European policy has long acknowledged the importance of clusters and the need for nourishing innovation ecosystem for the purpose of regional development and competitiveness. Several European regions and countries have in the past promoted two programming periods initiatives in the area cluster development. Most existing clusters are market-driven phenomena. They emerge without the help of specific policy, as a result either of the spontaneous accumulation of competitive advantage or simply by chance. However, evidence of their positive impact on regional performance has attracted policy-makers and led to formulation of cluster policies to foster or replicate their development

Figure 1 provides the rationale behind this ONLINE S3's application.

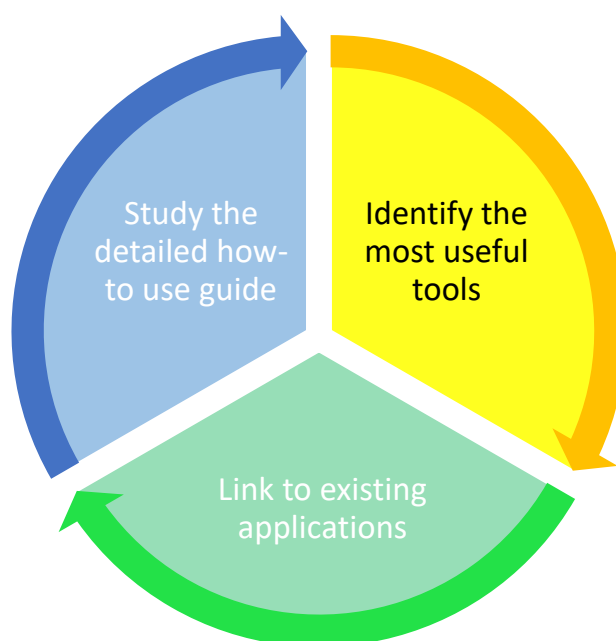


*Figure 1 Rational behind this ONLINE S3 application*

## DESCRIPTION OF THE APPLICATION

This application will provide the user with information on how to use already developed tools in regards to the mapping of clusters.

It includes a detailed guide of how to use each one of the already available applications.



*Figure 2 Overview of this ONLINE S3 application*

## BENEFITS TO KEY ACTORS AND STAKEHOLDERS

The use of cluster and incubator mapping tools would lead to a better definition of those niches in which regions have a competitive advantage, and a better definition of local business needs. This would allow more considerate development of future research and innovation policy, promoting targeted initiatives (i.e. research collaboration agreements, training of human capital, creation of competence centres, business start-up schemes in specific fields, PhD scholarships or technical schools), unveiling potential areas of integration with local research institutions and helping to avoid duplications and redundancies.

Please outline core values added for this tool/method with using the following smart art.

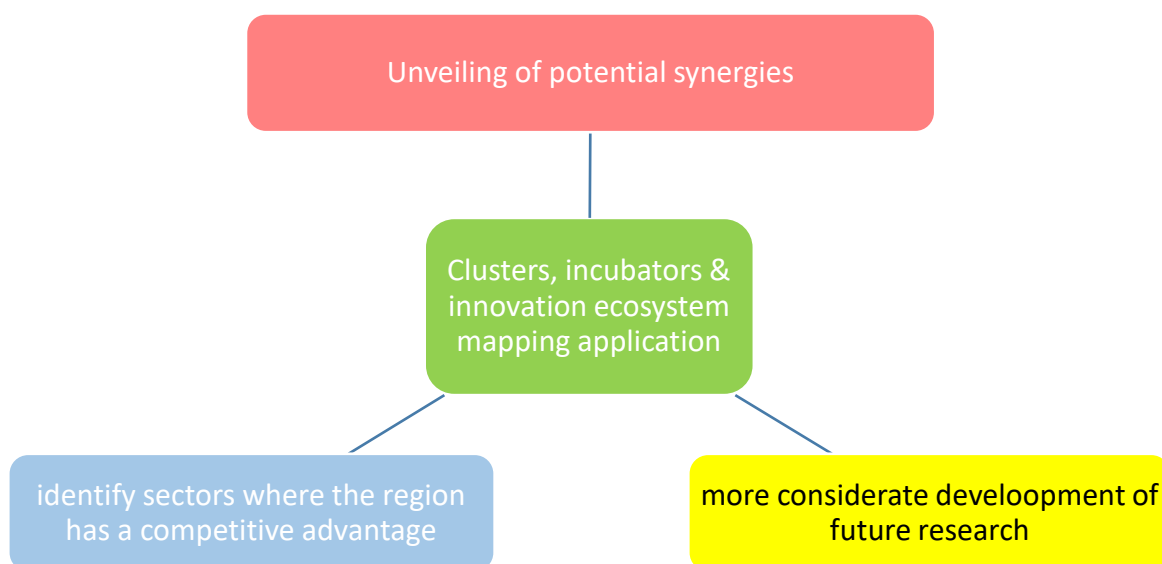


Figure 3 Benefits to stakeholders when using this ONLINE S3 application

## KEY ISSUES AND REQUIREMENTS

The application was initially planned to be an updated tool considering the mapping of clusters and innovation ecosystems. However all the data sources that have been defined in the description of the method do not have an open data repository. The absence of essential data and additional information, forces us to use already developed applications.

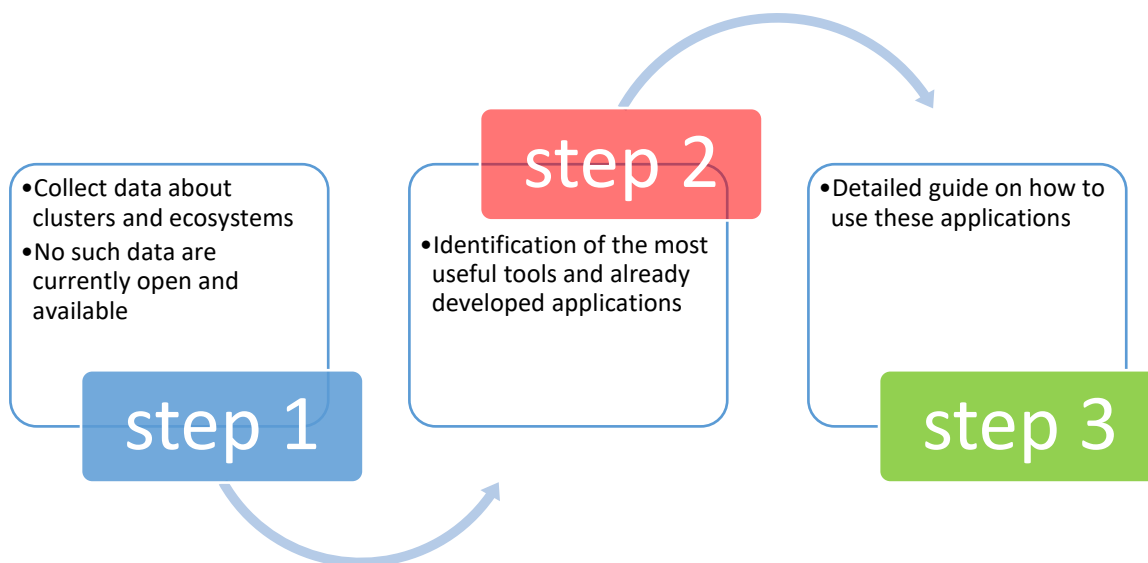


Figure 4 Key issues when using this ONLINE S3 application

## A STEP-BY-STEP GUIDE

How to use this application step-by-step?


### Tool 1. Regional Ecosystem Scoreboard run by the EU

- The objective of the Regional Ecosystem Scoreboard is to capture the quality of conditions in the regional ecosystem that can foster or hinder innovation and entrepreneurship. The emphasis of the Scoreboard is on the dynamics and on the conditions that characterise the quality and nature of the regional ecosystem but it is not about measuring performance.
- **Step 1:** Visit the [Regional Ecosystem Scoreboard](#)
- Once you visit [The Regional Ecosystem Scoreboard](#), a page that contains two drop-down menus will appear.



Figure 5 Drop down menu

After you click on the Country you are interested in, the second drop-down menu will get activated. This menu allows the user to choose to select the region of interest. Two new radio buttons will also appear use default peers and Select Peers.



The screenshot shows the 'Regional Ecosystem Scoreboard' interface. At the top, there is a navigation bar with the European Commission logo and the text 'GROWTH Internal Market, Industry, Entrepreneurship and SMEs'. Below this is a breadcrumb trail: 'European Commission > Growth > Entrepreneurship and Small and medium-sized enterprises (SMEs) > EU Cluster Portal > European Cluster Observatory > Regional Ecosystem Scoreboard'. A search bar is located on the left. The main content area is titled 'Regional Ecosystem Scoreboard' and contains several paragraphs of text explaining the tool's purpose and how to use it. On the left side, there is a sidebar with a 'Clusters' section containing 'Observatory' and 'Regional Ecosystem Scoreboard' links, and an 'Entrepreneurship and SMEs - links' section with various links like 'News', 'Events', 'Tools and Databases', etc. At the bottom of the main content area, there are three dropdown menus: 'Country' (set to 'Spain/España'), 'Region' (set to 'Select a region'), and 'Peers' (with radio buttons for 'Use default peers' and 'Select peers'). The 'Region' dropdown menu is open, showing a list of Spanish regions, with 'Comunidad De Madrid' selected.

Figure 6 Activation of second drop down menu and radio buttons

## Step 2: Use the tool for a certain region

The Regional Ecosystem Scoreboard comprises **six key dimensions** that consist of 60 indicators and composite indicators have been calculated for each of the six dimensions and seventeen sub-dimensions. The Scoreboard covers NUTS2 regions in all EU Member States, except for Belgium, Germany and the United Kingdom where it covers NUTS 1 regions. Once the user has chosen the country and the region of interest, a set of scores on these six key dimensions will appear. The default option contains the suggested peer regions options to which results will be compared to. The user has also the option of selecting up to five regions of his choice to which the region of interest will be compared to.



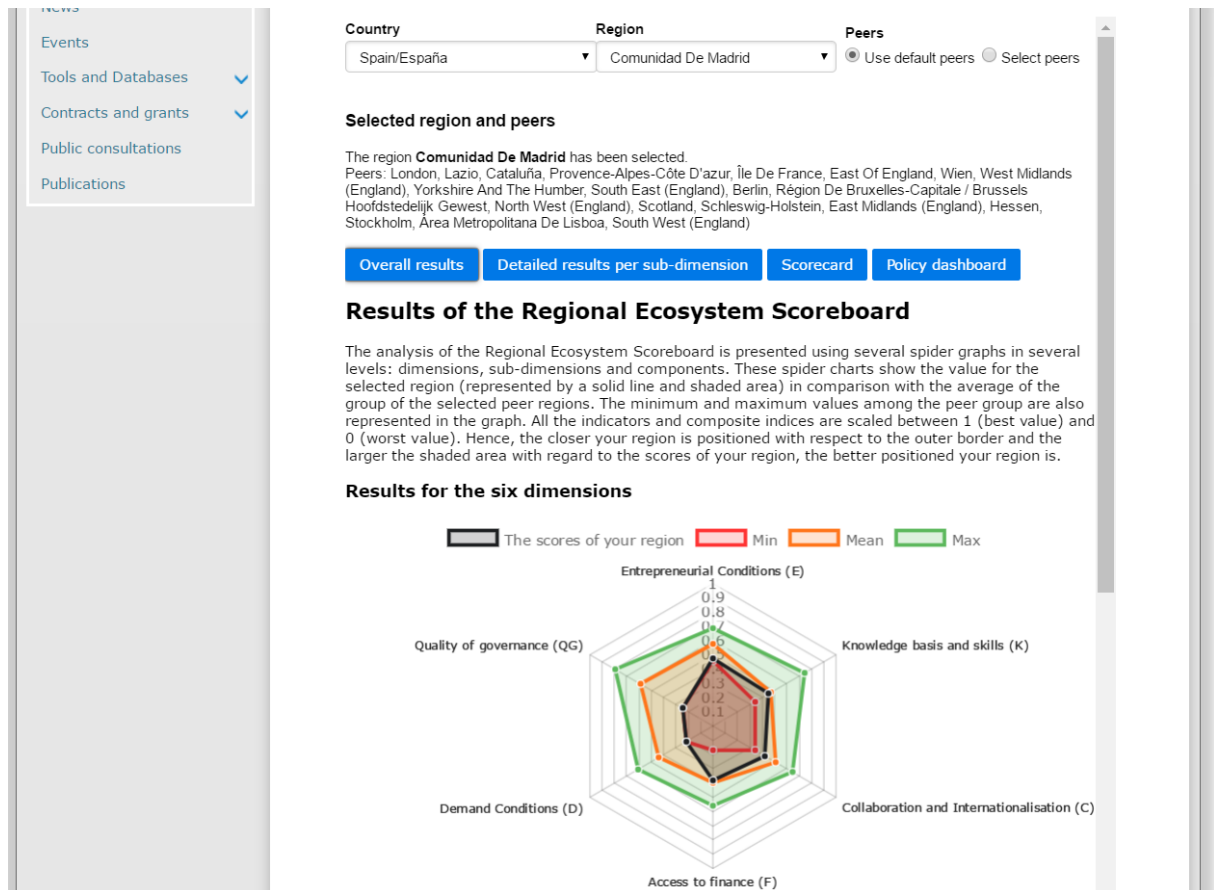


Figure 7 Select certain peers or the default ones

### Step 3: Understand the visualization charts

After selecting country, region and peers of interest three visualization charts appear. The charts display the performance of your region in comparison to the default peers or the ones you have selected. The first one depicts the regions' performance on the already pre-defined six key indicators and the second one the results for the seventeen sub-dimensions. The user can download any of the charts by right clicking on the chart and choosing "Save Image As..."

## Results for the seventeen sub-dimensions

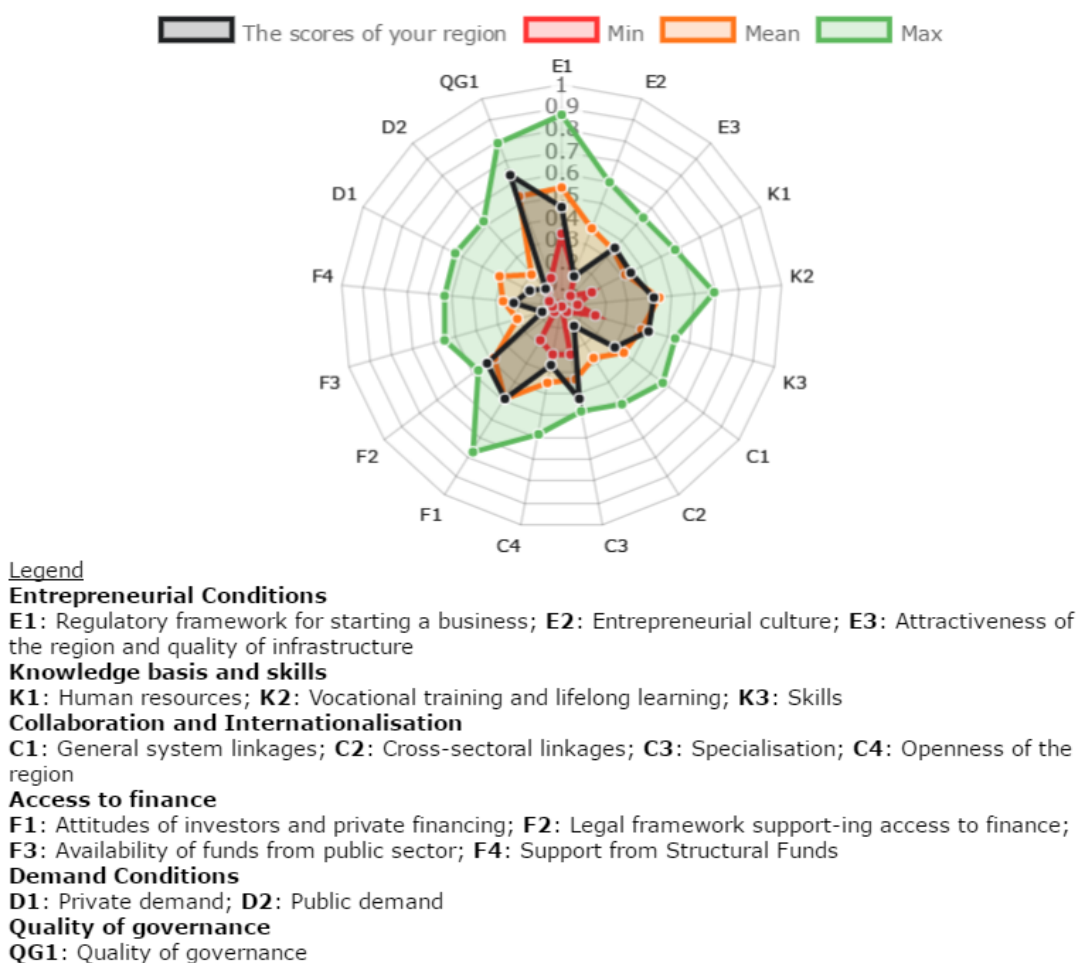


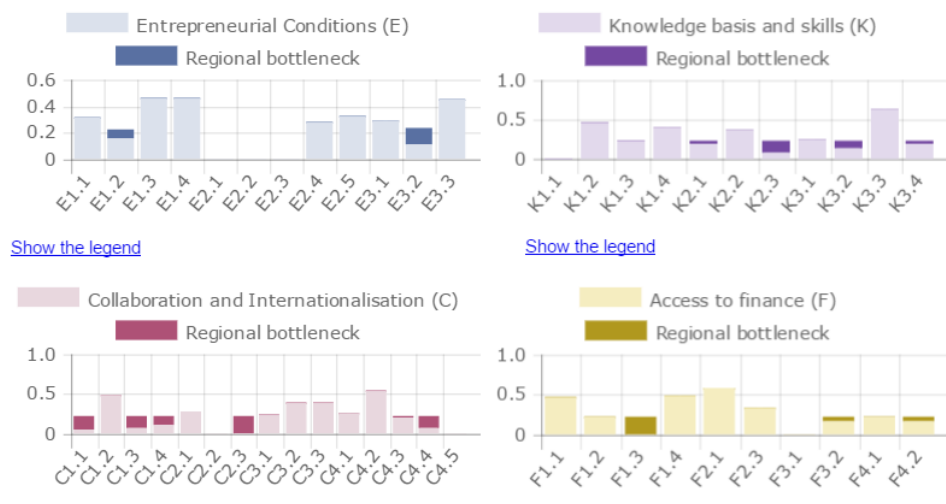
Figure 8 The second visualization chart

Finally, the third chart is a Policy action dashboard. The Policy Action Dashboard has been designed to provide a feedback of the specific areas that should be addressed by policy action. This so-called bottleneck analysis helps to identify the dimensions, sub-dimensions and specific indicators the alleviation of which would help reach the biggest gain and would improve the most the overall quality of the regional ecosystem in case other factors stay unchanged. The light bars in the bar chart below represent the actual value of your region on each indicator. The bars with a darker hat are those indicators, the increase of which would result in a 10% overall increase in the composite indicator for your region.

## Policy Action Dashboard

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The light bars in the barchart below represent the actual value of your region on each indicator. The bars with a darker hat are those indicators, the increase of which would result in a 10% overall increase in the composite indicator for your region.



Share

Share

Figure 9 Policy action dashboard

### Tool 2. The European Cluster Mapping tool run by the EU.

The [The European Cluster Mapping tool](#) provides sectoral and cross-sectoral **regional** data and **visualisation** of the geographical concentration of cluster development in Europe. The industrial strength of cluster development is illustrated by so-called **"cluster stars"** indicators that reveal the presence of critical mass depending upon the cluster's size, the degree to which it is specialised and how productive it is. The detailed indicators and stars are available for 51 traditional sectoral cluster categories and for 10 emerging industries that represent cross-sectoral cluster categories. The so-called **"Hotspot"** indicators give an assessment of the overall cluster strength across a region. Industries and regions can both be selected to visually display and compare cluster strengths and developments over time. Together with more than 20 other regional indicators, it offers a key tool for analysing local competitiveness.

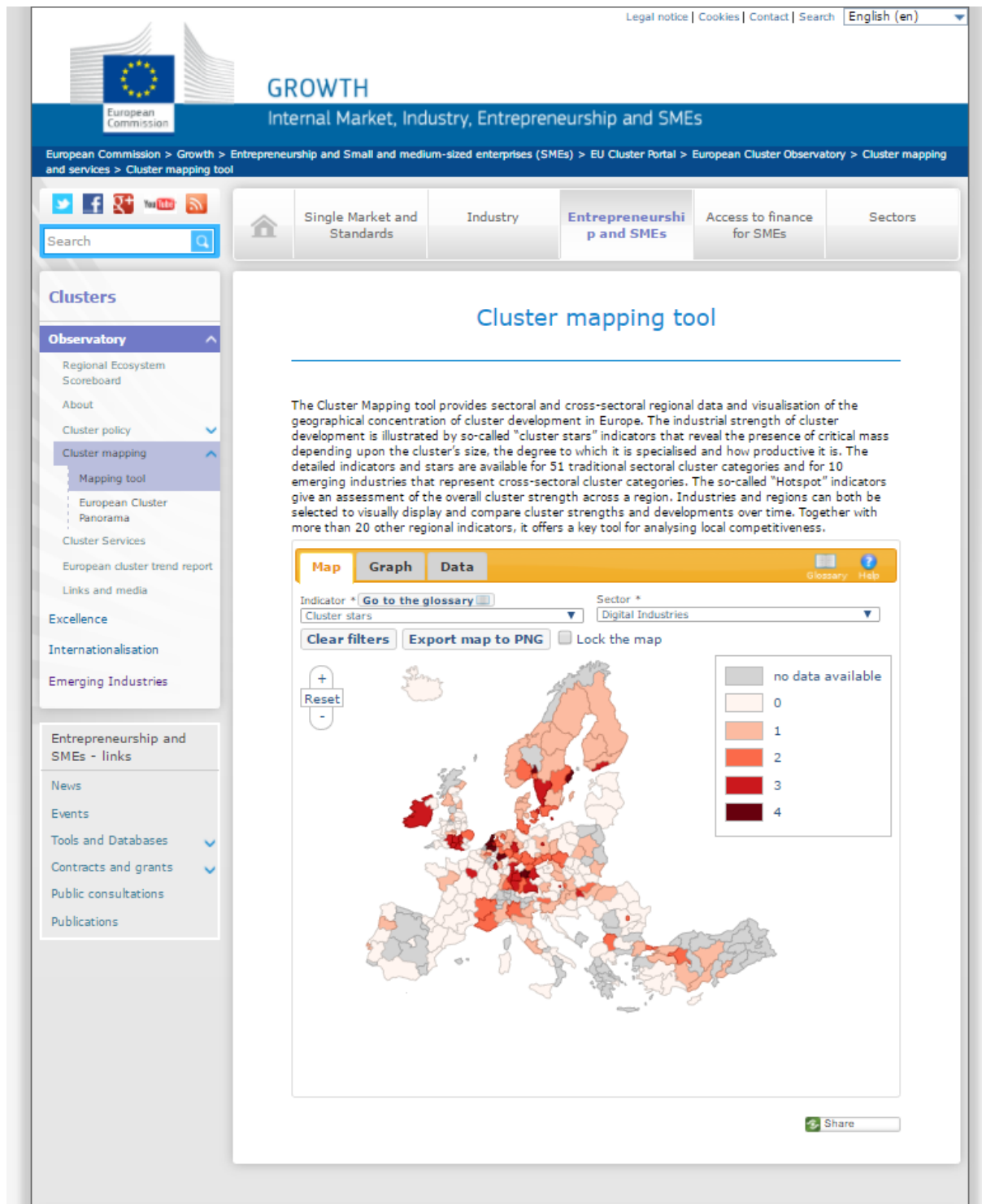


Figure 10 Main page of the European Cluster Mapping tool

### Step 1: Get to know the main functionalities of the tool

After accessing the Cluster Mapping tool, a map with all the regions of the EU appears. On the top of the map there are three tabs, **"Map"**, **"Graph"**, **"Data"** (See Figure 7). Right under the tabs bar there are two drop-down menus which. The one on the left contains a list of Cluster Indicators. The one on the right contains a list of Sectors. The Sector list, may be disabled when the user selects a certain Cluster Indicator (e.g. "HotSpots - Sectoral Clusters"). In that case a new tab appears right next to the "Data" tab (e.g. **Sectoral Clusters** tab) Please keep in mind that if a region is colored grey, there are not any data

available for this specific region. Finally, it is advised that you should **not use** either the clear filter or reset buttons, because the whole map turns grey and the user is not able to know if there are any data for a specific region or not.

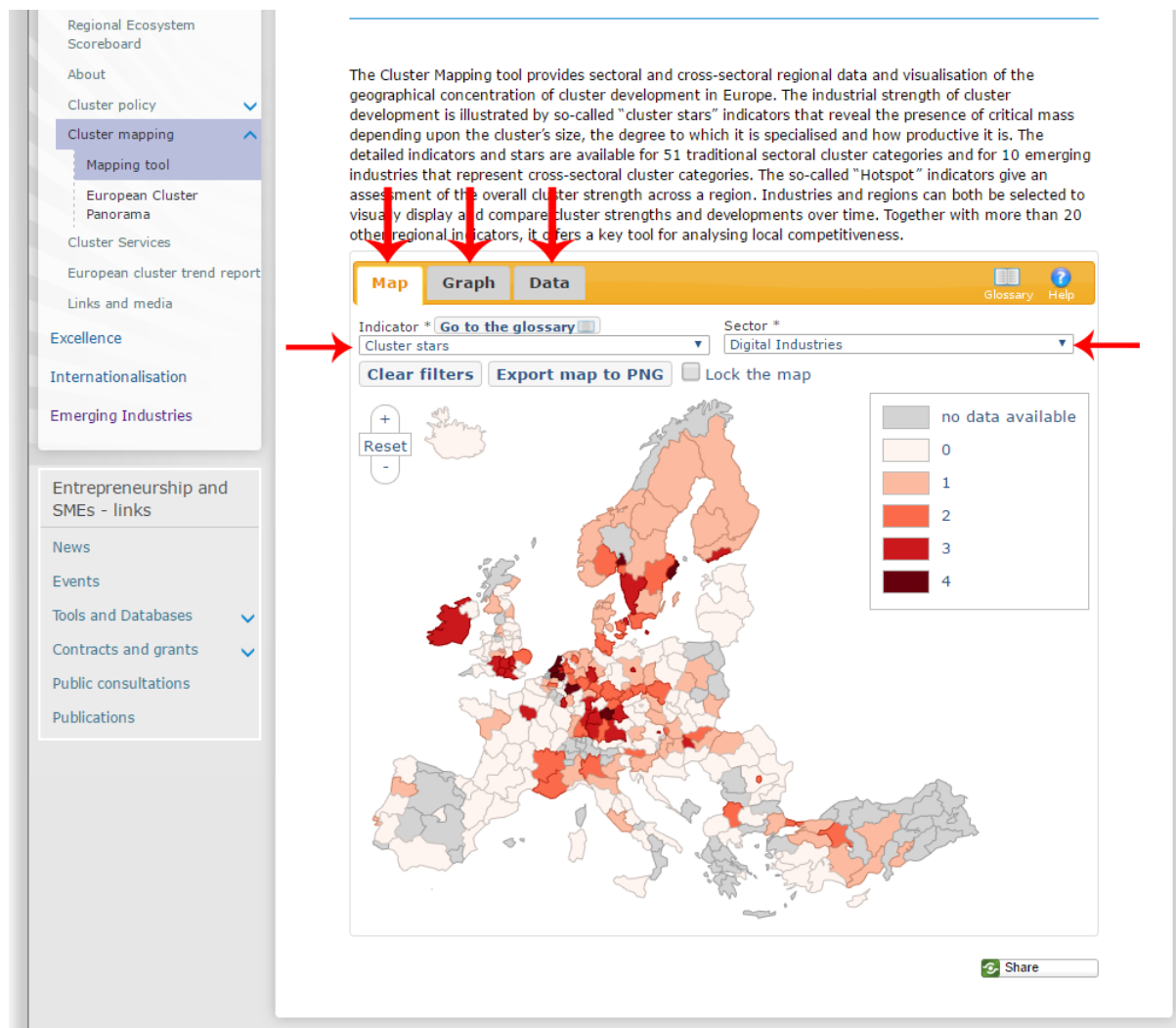


Figure 11 Main functionalities of the tool

## Step 2: Search for Clusters in a region

In order to search for Clusters in one or more regions of interest you have to click on the according regions for the map. Once you click on those that you are interested in, their color will change into **light green** (see Figure 8). In the example presented in Figure 8, nine regions have been selected randomly. The Cluster indicator filter has been set to "Cluster stars" and the sector filter has been set to "Digital Industries". If the user moves the mouse cursor over any of the regions (not only the selected one) a small info-window will appear which will contain the corresponding value for the filters that have been previously set.

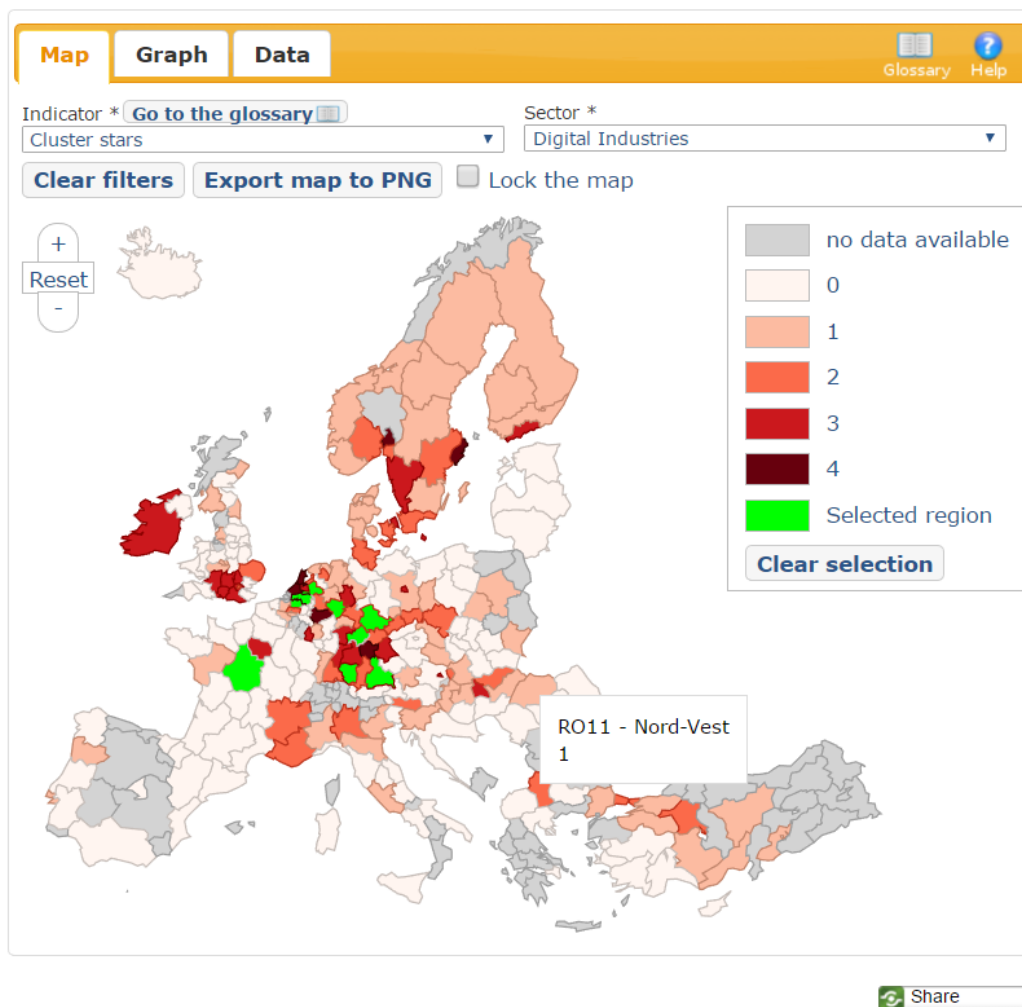


Figure 12 How to set the appropriate filters

### Step 3: Visualize the results

This tool can also create a rather simple Scatter chart, where the x axis is the Year and the y axis is the value of indicator that has already been set by the user. In the example of *Figure 9* you can see a simple scatter chart for three regions when "Hotspots - Sectoral Clusters" is the chosen indicator. Right next to the chart, there is a list of the regions that have been selected.

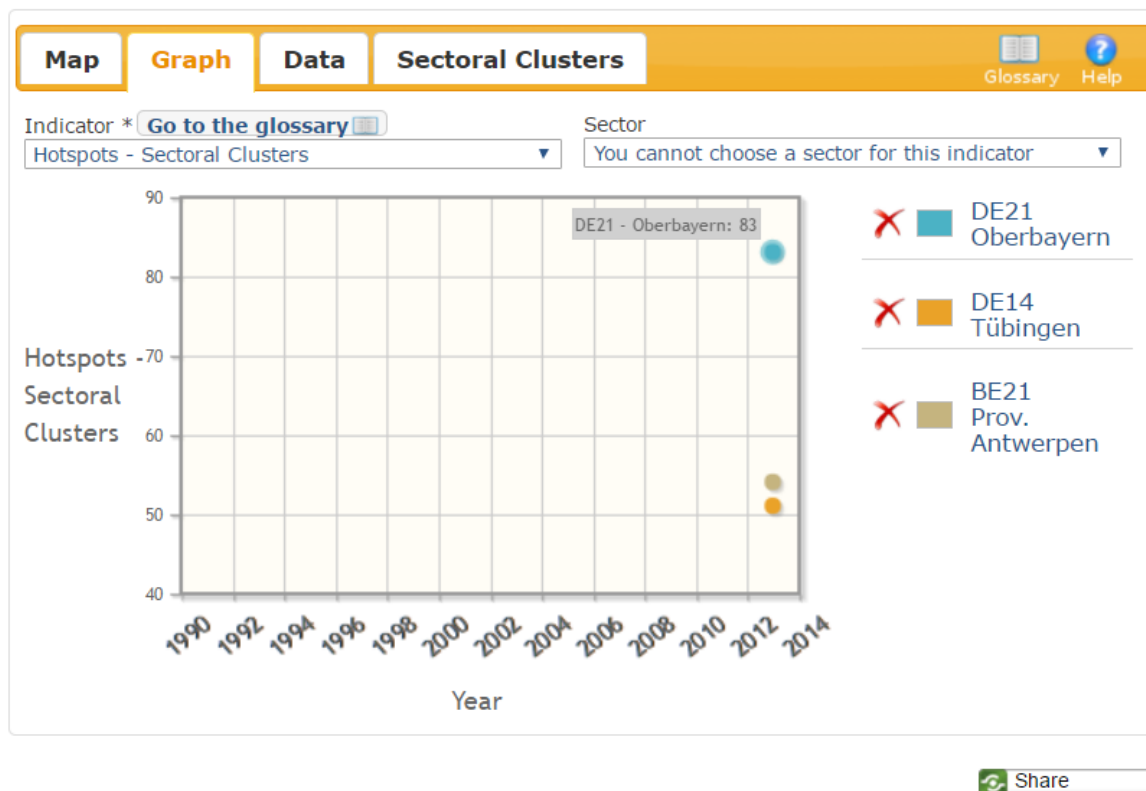


Figure 13 Visualization of the results

#### Step 4: Export the Cluster related data to .csv

The cluster mapping tool allows you to extract a file in .csv or .xml format which contains information on the clusters and the regions you have searched for. The process is really simple and it is described in detail below.

In order to export your search results in a .csv format the user has to click on the **Data** tab (and/or the "**Sectoral Clusters**", "**Cross-Sectoral**" tab where **available**). A table with the corresponding data appears right under the filter bar. To save these results in CSV format the user has to click the **Export Table Data** button.

## FURTHER INFORMATION

Further information regarding the description of the method can be found on the site of the OnlineS3 project ([www.onlines3.eu](http://www.onlines3.eu)).

## REFERENCES

Foray, D., Goddard, J., Goenaga Beldarrain, X., Landabaso, M., McCann, P., Morgan, K., Nauwelaers, C., Ortega-Argilés, R. Guide to Research and Innovation Strategies for Smart Specialisation (Ris 3), Smart Specialisation Platform. Regional Policy. available at <http://s3platform.jrc.ec.europa.eu/s3pguide>; European Commission; 2012.