



RISIS POLICYMAKERS' SESSION

Exploring Knowledge Production in Europe. The RISIS-KNOWMAK tool

19 December 2019 | CLORA Brussels
2.00 pm – 5.00 pm

Press Release

On 19 December 2019, the Club of associated research organisations (Clora) of Brussels will host the second RISIS Policymakers' Session. The European Research Infrastructure for Science, technology and Innovation policy Studies (RISIS) will focus on KNOWMAK, an on-line tool that provides a synthetic visualization of knowledge production in Europe, through scientific publications, patents and European projects.

"Effective knowledge production and transfer are vital for our ability to meet our economic, social and environmental challenges. RISIS is helping us to develop a deeper understanding of where scientific and technological knowledge is produced and how it is used across the European Research Area. It is providing an important part of the evidence we need to design better European and national science and technology policies", comments **Adam Tyson**, Head of Research and Industrial Infrastructures at DG R&I (European Commission).

During the meeting, **Benedetto Lepori** from Università della Svizzera Italiana and University of Paris Est, and **Thomas Scherngell**, from AIT Austrian Institute of Technology, will explore the conceptual and methodological choices of KNWOMAK, providing some examples of analyses based on the indicators available in the tool.

"The geography of knowledge production is highly complex. Regions are very heterogeneous in terms of their size, population and wealth; moreover, there are strong differences in the intensity of knowledge production, in the orientation towards science vs. technology and, finally, in the specialization in different topics", says Benedetto Lepori. "The KNOWMAK on-line tool allows for the first time a systematic analysis of such differences".

The tool allows users to visualize and download about fifteen indicators of knowledge production constructed around three integrative dimensions: topics, geographical spaces and research organizations. By selecting their topics of interest and a geographical space (country or region), users can visualize on-line maps of Europe that display hot spots of knowledge production. Available indicators cover scientific publication output (from the RISIS-WoS database), patenting activities (from the RISIS-PATSTAT database), participation to European Framework Programs (from the RISIS-EUPRO database), as well as indicators on open access and user attention on scientific publications. Further, at the regional level, users can identify the most active research organizations (public and private) and access a selection of social innovation projects from the European Social Innovation Database (RISIS-ESID).

“The core of KNOWMAK is an ontology of knowledge production topics providing indicators to answer relevant policy questions, from the most active regions and research organizations in waste management and recycling to what concerns scientific development (based on publications) and technology (based on patents)” says Thomas Scherngell.

The Session will start at 14.00, at Clora Salle DELVAUX, (Avenue des Arts 8, 1210 Brussels), and will finish at 17.00. The final programme and the registration form are available [here](#).

Notes

About KNOWMAK:

KNOWMAK is a free service that can be accessed on-line at www.knowmak.eu.

The KNOWMAK dashboard allows the interactive selection of the knowledge production indicators, of their aggregation level (topics and geographical space), as well as of the year and of the type of visualization (maps, charts, table with the numbers).

Additionally, for each country or region, a factsheet displays the most important public and research organizations for the topics selected (by number of scientific publications, patents and European projects), as well as a selection of social innovation projects pertaining to that region and topic.

Finally, users can download the indicators for their selection of spaces and topics in a csv format for further analysis.

Main KNOWMAK analysis:

One of KNOWMAK analysis shows that the regions with higher knowledge production volumes are mostly concentrated in large metropolitan regions. The distribution of the volume of knowledge production appears highly skewed, with the first 10 regions - mostly large metropolitan regions with a population higher than 2M inhabitants- that account for more than 20% of the European total. On the other hand, some small- to mid-sized regions produce more knowledge per capita than their mega-city counterparts emphasizing the important role of medium-size regions that is likely to emerge even more clearly when analyzing specific research domains.

Moreover, the KNOWMAK tool provides some experimental data on three other dimensions:

- social innovation, broadly defined as innovations that satisfy societal needs including the needs of particular social groups and are primarily created by social actors such as non-governmental organizations or grassroots movements;
- user attention to scientific production, as measured by the number and share of publications tweeted;
- the number and share of publications in open access, as an indicator of the broader availability of scientific publication beyond the scholarly audience.



Within KNOWMAK, it becomes therefore possible to analyze variations in the extent of user attention and open access by country and by topic to understand how these are related to different characteristics of scientific domains, but also to institutional cultures across Europe.

About RISIS project

The European Research Infrastructure for Science, technology and Innovation policy Studies (RISIS) aims at building a data and services infrastructure supporting the development of a new generation of analyses and indicators.

To develop a deeper understanding of knowledge dynamics and policy relevant evidence, the project goes beyond established quantitative indicators, developing positioning indicators, which take into account critical features of knowledge dynamics i.e. the importance of asymmetries in producers, in places and in themes. RISIS datasets are built keeping information on these three dimensions. To exploit them, new services dealing with actor identification, geographical information and thematic foci are developed, as well as semantic analytical capabilities.

Actually, RISIS datasets cover 5 main areas: Firm Innovation capabilities, R&D outputs, Public research, Higher Education and careers, Policy Learning and Transnational Programmes, Organization Registers.

More information are available here

Or on RISIS twitter account: [@risis_eu](https://twitter.com/risis_eu)

Inquiries and information:

RISIS Communication:

Grazia Battiato

grazia.battiato@ircres.cnr.it risis.communication@ircres.cnr.it

RISIS-KNOWMAK tool:

Benedetto Lepori

benedetto.lepori@usi.ch

Thomas Scherngell

thomas.scherngell@ait.ac.at