

Combining Bibliometric Issues and Descriptive Information to Produce a Database of National ST&I Systems : the Curie+ Approach

Françoise Laville*, Jean-Claude Topin**, Chris Roth* and Patrick Séchet*

* *flaville@obs-ost.fr, chris.roth@obs-ost.fr, patrick.sechet@obs-ost.fr*

OST, Observatoire des Sciences et des Techniques, 93 rue de Vaugirard 75006 Paris (France)

** *jean-claude.topin@diplomatie.gouv.fr*

MAEE, Ministère des Affaires étrangères et européennes, Direction générale de la Mondialisation, du développement et des partenariats - 27, rue de la Convention - CS 91533 75732 Paris Cedex 15 (France)

Background and purpose

In terms of science, technology and innovation (ST&I), the foreign policy of the French government is essentially driven by two objectives:

- To make French research and industry more competitive thanks to strategic foreign partnerships;
- To increase France's scientific, cultural and economic influence in the World by associating the scientific communities of developing nations in research on major issues like sustainable development.

Implementing this policy, either via specific international actions made by the different ministries or via bilateral scientific collaborations put into place by the French public research organisms, requires knowing about the research and technological environment of each potential partner country for France and the French research and innovation system. This knowledge is necessary for putting in place a coherent geostrategic scientific plan, based on choosing those cooperation possibilities that are most likely to respond to the objectives of the French ST&I foreign policy.

The Curie+ leaflets, a database of analyses of different international scientific environments, provide this knowledge. They have progressively been put into place by the French Ministry of Foreign and European Affairs (MAEE) in partnership with the Observatory of Science and Technology (OST) from Paris. Each leaflet is based on a compilation of qualitative information, using the available expertise in this domain, and quantitative indicators calculated from reference databases containing worldwide data (OST, 2008).

Details of methods, materials and procedures

Until the last few years, two different approaches were tested as potential sources for the international ST&I environments database. On one hand, the creation and maintenance of a structured essentially qualitative database on the scientific environment of divers countries, this information being provided by the scientific attachés of French embassies. On

the other hand, the completion of in-depth country reports by the OST for specific scientifically important countries, according to a very ambitious format and containing quantitative bibliometric information (based, in particular, on scientific publications and international patents).

The Curie+ leaflet combines these two approaches to provide a more complete and better adapted product. The Curie+ leaflet is produced by enriching the information provided by the scientific attaché, with about fifteen tables of ST&I indicators produced by the OST (figures 1 & 2), thus bringing recognized and internationally comparable statistical data to the previous product that essentially contained a qualitative description.

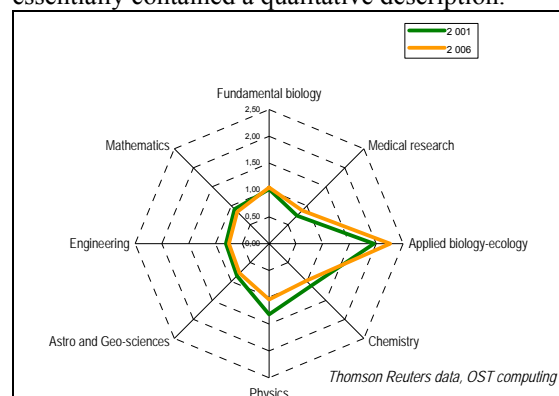


Figure 1: specialisation index of Brazil

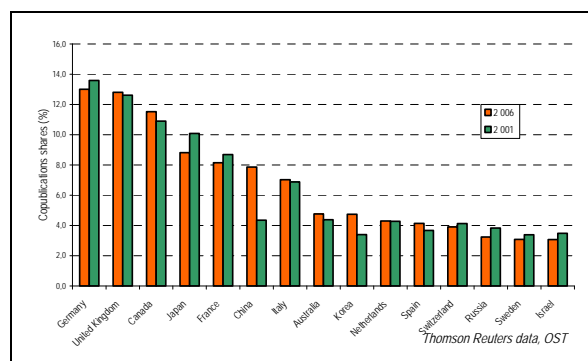


Figure 2: Top scientific partners of the United States

The mission entrusted to the OST goes largely beyond the simple integration of the two types of information. Firstly, to reinforce the comparability of the Curie+ leaflets, the OST provides the standardized leaflet layout and an explanatory notice to the scientific attachés of the different French embassies. The notice details the type and quantity of information that is required in each section of the plan. The standardized plan contains the country's ST&I indicator tables completed with a brief commentary, thus inciting the scientific attaché to provide an interpretation of this quantitative information in light of the country's specific scientific environment. The OST then maintains a personalized exchange with the scientific attaché during the elaboration process and reviews the resulting document in order to verify the overall coherence and homogeneity of the information presented in the different sections.

Findings, discussion and conclusion

Of the about forty Curie+ leaflets whose production has been programmed to date, more than half have been finalized. These are presented in dark green on the world map (figure 3). The finalized leaflets have proven to be of great use for the different actors in the field of French bilateral S&T cooperation.

The question of the periodic update of these leaflets is under consideration. Completely reviewing each leaflet every four years, or updating the ST&I indicators every two years, at least for the more dynamic countries in scientific and technical terms, seems appropriate. A revision/remodelling of the standardized leaflet plan will necessarily be undertaken when the first overall actualization of the Curie+ leaflets takes place. A greater emphasis on the country's existing research priorities of the country could be included, for example. This may facilitate the identification of the potentially most beneficial opportunities for promoting international cooperation between France and the country considered.

References

The studies of the Observatory of Sciences and Technology depend on the skills and work of the whole OST staff. They are available on the internet site: www.obs-ost.fr

OBSERVATOIRE DES SCIENCES ET DES TECHNIQUES :

Indicateurs de sciences et Technologies, rapport de l'OST - édition 2008. Paris: OST/Economica, déc. 2008.



Figure 3: World map of finalized Curie+ leaflets and of leaflets in progress