

## Research tax credit: a win-win tax system

ANRT, 24 July 2012

### France still ranks high in the world for research

For the second year in a row, international ANRT member groups shared their data to ensure that the stability of Research Tax Credit continues to make France one of the most attractive locations in the world.

Once again, ten international ANRT<sup>1</sup> member groups that undertake a large share of their research in France accepted to calculate and communicate to ANRT the comparative cost prices of their researchers (taking into account direct and tax aids) in the countries where they invest in research. Together, these ten groups invest over 12 billion euro in research throughout the world each year, a significant proportion of which is in France. Almost 75,000 research jobs are concerned.

Stiff competition to attract research between the 20 countries studied shows that maintaining and intensifying efforts has been worthwhile. Company research is undergoing a deep shift. The time when companies sought to build new ramparts for their impregnable castles is over: innovation is now mostly decentralized and driven by organized partnerships. RTC is an ideal tool to initiate networking, particularly with public research. It also encourages companies and their partners to include innovation requirements in research programmes.

### RTC encourages the move towards open collaborative innovation

The benefits of RTC investment don't stop there. Most engineers and researchers developing new projects work for subsidiaries with their own specific road maps. The personnel declared in relation to RTC thus only devote some of their time to the research aspect of their projects; they mostly work on innovation, and often on experimental developments. This second edition therefore explores new territories: how can we assess the knock-on effect on innovation ecosystems?

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<sup>1</sup> Air Liquide, Alcatel-Lucent, Aperam, ArcelorMittal, EADS, NXP, Saint-Gobain, Sanofi, ST-Ericsson, STMicroelectronics, Thales.




















## French productivity is picking up

- In Europe, regarding the cost of researchers and thanks to Research Tax Credit, France compares favourably with Italy, the United Kingdom, Belgium, Germany and Sweden. The specific conventions in place in Spain (mainly regional, depending on the level of autonomy) result in a much lower average cost for researchers in this country.

- North America remains an expensive research environment, mainly due to specialized expert centres comprising experienced researchers; the downturn in the euro-dollar exchange rate over the period explains the situation's slight improvement compared to the previous year.

- Asia, apart from Japan, offers more favourable conditions than Europe, still bolstered by the proximity of growth markets. That said, the gap with the cost of a researcher in Asia narrowed slightly this year: Singapore is only slightly less expensive than France, while China still enjoys a 40% lead. Conditions are therefore levelling out and France is increasingly considered as an option when launching a new project or deciding on a new location in Europe or elsewhere in the world (**Table 1**).

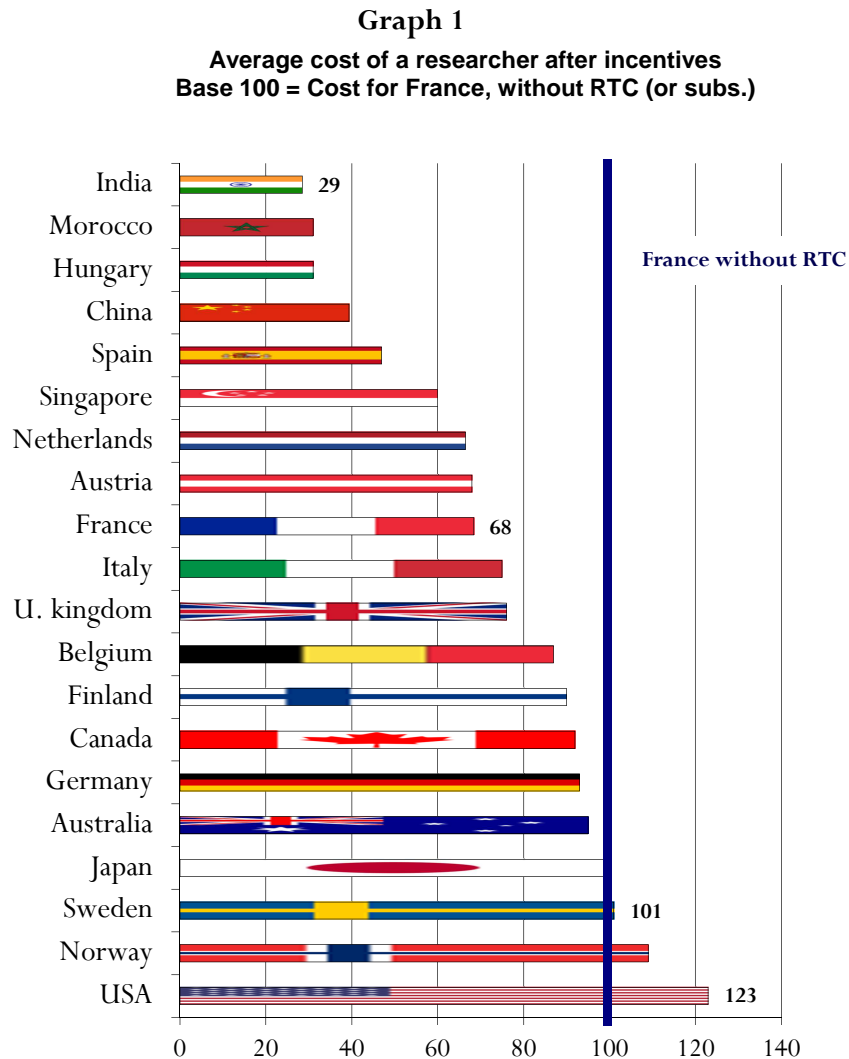
**Table 1**

COUNTRY		GAP WITH FRANCE <sup>2</sup> (%)
United States		+89
Norway		+59
Japan		+48
Sweden		+48
Germany		+38
Canada		+34
Finland		+32
Belgium		+27
United Kingdom		+11
Italy		+10
France		-
Austria		-1
Netherlands		-3
Singapore		-12
China		-42
Spain		-44
Hungary		-55
Morocco		-55
India		-58

<sup>2</sup> The overall ranking is remarkably consistent from one year to the next. The main changes, although sometimes great, are mostly linked to the economic aspect of non-RTC subsidies.

## France well placed

**Graph 1** below aggregates the information communicated and gives a reliable reflection of the actual situation of industrials taking part in the exercise.



The vertical blue line, “France without RTC”, shows where France would be positioned if RTC did not exist. In comparison with the first edition, we can see a slight increase for France, possibly due to the fact that the 2011 RTC takes less account of researchers’ environment costs, down from 75% to 50% [c.f. ANNEX I for a simulated impact of a drop in RTC]. Without RTC, in Europe, France would be at the same level as Sweden; in the international arena, it would be almost as expensive as Japan!

Taken as a whole, the cumulated effects of public aid, including RTC, European and national subsidies, bring down the cost of researchers by **32%** for the global groups participating; RTC’s demise would increase the attraction of the competing countries listed above.

## France still the predominant research location for these transnational groups

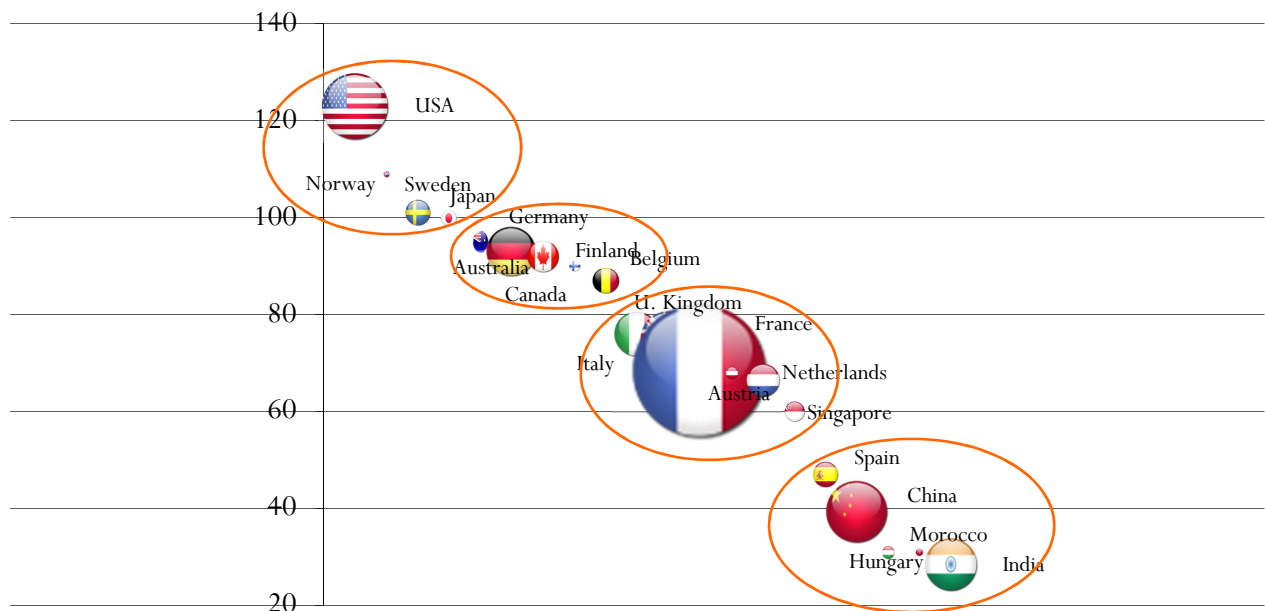
No global group can go without a strong presence in the United States or China, both for acquiring knowledge and developing innovative ideas adapted to the biggest local markets on the planet. For this reason, the benefits of maintaining European sites are regularly reviewed.

However, with the current RTC, which brings the average cost of a French researcher down to 68% of the reference cost, multinational groups based in France keep close to **43% of their R&D on national territory**; France comes across as a reasonable hub for what is still mainly European research: 71% of researchers from participating groups are employed in Europe. To date, France remains the principle global research pole for these innovative groups, all of which have been built up from a strong French base combined with other skills. This high research involvement is out of all proportion with the turnover achieved on national territory: the challenge of RTC is clearly to increase the international competitiveness of actors operating in France.

In **graph 2** below, the size of the flag is proportional to the number of employees concerned in the corresponding country<sup>3</sup>.

**Graph 2:**

**Cost of researchers**  
Countries' relative weight (researchers employed)  
(base 100 = France without RTC (2011))



**Explanation of graph 2:**

1. The higher a flag sits in the graph, the higher the R&D cost of the country represented; the ellipses group countries in direct competition.
2. The size of each flag is proportional to the researchers employed in the country, for the participating companies.

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When the countries are put into four groups (i.e. the ellipses), France occupies a central position in Europe, directly competing with Italy and the United Kingdom – around 75% of the average reference cost. At the two extremes are the United States group, where the cost of a researcher represents between 100% and 120% of the reference cost, and the group that includes China and India, where the

<sup>3</sup> Measures concern only country averages determined with over 42 researchers.

cost is only between 20% and 50% of France before RTC. Germany's group, where the average cost is close to France's without RTC, constitutes the second source of competitive pressure.

Thanks to the new data, we can see that France enjoys "average" attractiveness in Europe: of the 15<sup>4</sup> European countries in which French-based groups undertake their R&D, 8 reveal higher average net costs, and 7 show lower ones. This competitive pressure can be crucial: given that opening a new R&D site in Asia is a long-term investment in which the variable cost is only a secondary factor, locating in Europe just on the other side of the border is then worth considering when making a decision.

### **RTC, sustainable fuel for ecosystems**

RTC encourages companies to subcontract R&D; outsourced research is still growing, despite the economic downturn. By handing over research to public laboratories and private research organizations around their R&D sites, participating companies make a strong contribution to building up local innovation ecosystems. These two-way exchanges boost ecosystems, especially since outsourced research often represents an initial step towards more accomplished forms of partnership.

The groups in our sample maintain contractual research-development relations with over two thousand organizations in France, spread over the whole territory, close to the place where research is carried out (c.f. the geographical concentration in the greater Paris region, Île-de-France). The importance of geographical proximity for R&D thus contributes to RTC's positive, high impact on keeping specialized R&D skills employed on French sites. "Competitiveness clusters", and forthcoming IRTs ("Institutes for technological research"), are good illustrations.

The average amount of an outsourced research contract varies<sup>5</sup>, but groups behave in distinct ways: some tend to hand their research over to public laboratories, while others only subcontract to other companies, **mostly SMEs**. Although an average value does not mean much, these contracts constitute tens of millions of euro that help research partnerships in France keep "up to standard".

RTC has become a tool for decentralizing research and innovation, making it beneficial to developing partnerships.

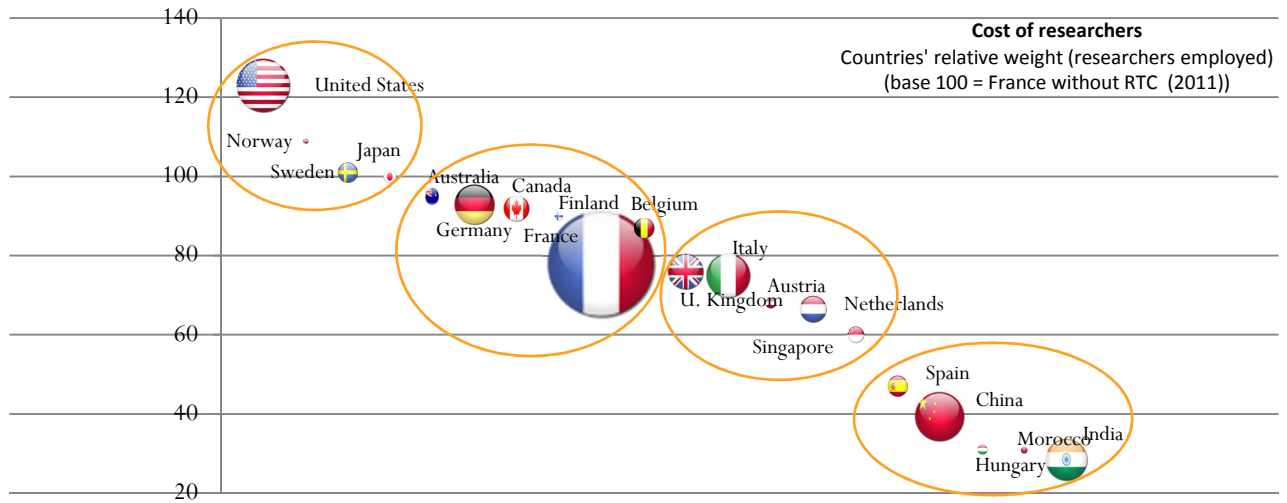
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<sup>4</sup> Not all are represented on the graph, c.f. footnote on page 3.

<sup>5</sup> Apart from any existing links, this depends on the scientific and technical specialization, on whether it is oriented more towards "research" or "experimental development", and on whether the sub-contractor company is public or private.

ANNEX 1

**Simulated impact of a move to 20%<sup>6</sup>  
France less competitive than the United Kingdom and Italy**



Taking into account only the direct impact of a move to a 20% RTC instead of the current 30%, France would automatically change group and find itself directly competing with countries like Germany, Finland, Australia and Belgium. It would therefore be in a highly unfavourable competitive position in relation to today's principle competitive sites, headed by Britain and Italy.

This price effect would be succeeded by a volume effect over the following years: the quantity of researchers on the national territory would drop. Groups would readjust resources and allocate more projects to the zones in which they are present outside of France, firstly in Europe and then elsewhere, in proportion to the increase of the average cost caused by the drop in RTC. This situation is likely to be perceived as a return to the low-incentive situation that prevailed up to 2008 (when the volume of expenditure accounted was only 10%).

<sup>6</sup> This one-third drop in the RTC rate corresponds to that suggested in the report written for the French Senate finance commission on Research Tax Credit, by Senator Michel Berson, 18 July 2012.

## ANNEX 2

### Reliable, comprehensive barometer

International groups have every reason to view France as a suitable host country for their research investments. The quality of research and the proximity of major markets, coupled with, for in-house propositions of comparable quality, the favourable cost of researchers and research, influence the choice between different Research sites especially when it comes to company development.

#### *Methodical approach with an emphasis on internal consistency*

Taking as a reference the average cost of a researcher in France before any subsidies or research tax credit (base 100), ANRT aggregated the accountable data for each group to produce a graph of the observed cost of a researcher per country. Bearing in mind the differences in accounting between groups, the information was standardized by amalgamating the accounting entries used by each of them. Although the information is not perfectly homogeneous, it is so for each group. International differences are thus highly representative.

#### *Virtuous tax system*

An appropriate tax incentive policy involves endowing a country with conditions whereby the public resources used produce the anticipated effect – no more, no less. In the absence of reliable information from the field, lawmakers cannot know the impact of policies undertaken elsewhere and must strive to get it right. Studies on Research Tax Credit, in particular by the OECD, tend to quantify theoretical impacts at macro-economic level. Despite their intrinsic qualities, these studies do not have the capacity to describe the actual cumulative effect on companies' accounts of public policies, direct aid and tax incentives taken together.

Only the accounts of major companies depict the real state of affairs, allowing for all benefits and expenses. Multinational groups' accounting and tax systems are necessarily solid and coherent; thanks to cost control and business intelligence, they can be used to generate data for making decisions. This information is therefore highly sensitive: it reflects both company strategy and government strategies through subsidy schemes specific to sectors, locations, and intellectual property registration in a country.

- **No ceiling means no windfall effect.** If there is a windfall, it only concerns those who carry out a lot of research in France. Setting a ceiling would suggest an optimum expected by public authorities. A ceiling indicates the maximum (research investment) that a country expects; it is, by definition, more advantageous to those who complete their research investment in France and less advantageous to those who have chosen France as one of their research pillars.