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Turn Spain's budget crisis into an opportunity

Strict funding cuts mean that the country's research system must renew its focus on quality rather than quantity, says science secretary **Carmen Vela**.

Spain's 2012 budget is the most austere in our democratic history. The government has been forced to optimize its limited resources in all areas — and science, technology and innovation cannot be exempted. That is why I have agreed to a significant, although not insurmountable, decrease in resources.

In the part of the budget allocated mainly to the grants and subsidies that are indispensable to research, there has been a €475-million (US\$591-million) reduction: a decrease of 22.5%. This comes on top of cuts in previous years, so it cannot be denied that we face a very challenging situation.

We know what needs to be done. My department must prioritize and strive for excellence. One-quarter of the Spanish labour force is unemployed, so although investment in science, technology and innovation is a priority, it must also be realistic.

Look around and don't be fooled. We must now stop talking about the importance of science, and instead commit ourselves to the need for excellence in science.

Research, development and innovation in Spain have unquestionably advanced over the past decade. But this accelerated growth can hamper the effective management of resources, and a number of overlapping institutions and functions have been created. Currently, there is a biotechnology research centre or a science park in almost every Spanish region.

To strengthen the research system in our country we must slim it down, but it is important to cut back on quantity, not quality. This process will be complex and unpopular: after all, nobody likes cuts or readjustments. Under the changes that I announce here, only those scientists who can demonstrate that they are pushing the frontiers of our knowledge will be allotted resources. We want to support only the really competitive projects that are bearing fruit, or that show the potential to do so through recent results, and which aim to improve the daily lives of our citizens. Competitiveness will become part of the process of obtaining state funding.

We must develop and optimize the Science, Technology and Innovation restructuring law that came into force last year: to do this, we will create a government agency to evaluate and fund research and development (R&D). This agency will make the management of public funding more efficient; establish enforceable commitments in management contracts; and give more autonomy and responsibility to the science and technology community.

We also need the private sector to have a role in R&D, and we are looking into possible options, including optimization of the tax framework for R&D and crowd-funding schemes.

I encourage our researchers to demonstrate their excellence by competing internationally with the best in Europe. The European Union foresees an investment of more than €80 billion through the Horizon 2020 Framework Programme for 2014–20. Our scientists must seek and win some of this money.

We will encourage this through the recruitment of specialists to propose and manage European projects. We will also attach increased weight to previous European and international experience when making domestic funding decisions.

When it comes to science, our number-one priority remains support for the excellent researchers that Spain already has. In February, we were able to continue the Researcher Staff Training funding scheme for our youngest talent with the same total funds as last year.

We need to change the number of researchers by maintaining and improving the quality of the contracts while reducing the quantity. We would have needed to do this anyway: the Spanish R&D system is not large enough to justify paying as many researchers as it currently does.

We will reduce the number of grants offered each year in the Ramón y Cajal tenure-track programme for young researchers, from 250 in 2010 to around 175 in 2012. However, the quality of each grant will improve, with researchers gaining more independence through higher initial grants and a better distribution of the salary. The programme's total budget will increase from €45 million in 2010 to €54 million in 2012.

There will be similar changes to other significant programmes: the Juan de la Cierva postdoctoral grants, the Torres Quevedo industrial-research grants and employment of technical support staff members in Spanish universities and public-research organizations. We will offer 700–800 grants in total for these programmes this year, in comparison with 960 in 2011.

The situation is not ideal, but continued criticism will not help us to dig our way out. Excellence involves having an attitude based on effort and work, not just on criticism. It is not enough to focus on the present without planning for the future. My job, and that of my team, is to achieve excellence in investment using the available resources.

Albert Einstein, one of the few scientists whom people in Spain were able to name in a survey last month, once said that there is a driving force more powerful than steam, electricity and atomic energy: the will. With will, our slimmed-down R&D system will be able to take advantage of the crisis — and emerge from it stronger than ever. ■

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