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Society's challenges demand youth interest and funding in Europe, ex-research minister says

EU research, which has improved society and the economy for decades, now needs to engage more young people and attract extra public and private investments, according to Professor Manuel Heitor.

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Europe is looking both back and ahead at its activities in the all-important policy area of research. The EU is celebrating 40 years of investment in research and preparing the ground for the 10th funding programme to run from 2028 through 2034.

Past achievements and future priorities were the focus of this year's EU Research and Innovation Days, which took place in the Belgian capital Brussels and online on 20-21 March. The event drew thousands of policymakers, researchers, industry representatives and members of the public.

Horizon Magazine spoke to Professor Manuel Heitor, chair of an expert group that will evaluate the current EU research funding programme – known as Horizon Europe – and set out priorities for its successor. Horizon Europe, with funding of almost €100 billion in 2021-2027, represents the third-biggest part of the EU budget.

Heitor is a professor at the University of Lisbon's school of engineering and technology. A former Portuguese minister of science, technology and higher education, he touches in the interview on issues ranging from the implications of Russia's invasion of Ukraine to Europe's goal to spend at least 3% of gross domestic product on research and development.

What are the main EU research achievements to date?

Europe has greatly benefitted from the EU framework programmes. Research jobs jumped considerably from 1.38 million in 2011 to over 2 million in 2021.

Business has also benefitted. Firms that received funding for research have increased their employment by 20% and their turnover by over 30% compared to non-funded firms.

Most importantly, there is what we have learned. Our cities have become more sustainable and more green, mostly thanks to EU-funded research projects. We are also greening our industries – from steel to automobiles, shoes and textiles. Industrial activities have greatly benefitted from EU funding.

What particular highlights would you mention?

The great strength of the programmes is their collaborative framework, which is unique. The collaboration between industry and academia, research and innovation and across different industries has greatly benefitted the European identity.

In the last 20 years, we need to acknowledge the impact of the fundamental research sponsored through the European Research Council (ERC). Here there are many, many examples, including the development of the mRNA vaccine to fight against Covid.

There is also the contribution of the European Innovation Council and all the startup firms and entrepreneurs that have strongly benefitted from fundamental research.

What will be the main challenges in the coming years?

We are facing huge uncertainties and unique challenges at the world level, but above all in Europe. Climate change for certain, but also war. War is back – and is in Europe.

We also have a unique situation in the area of demographics, with the ageing of the European population and rising inequality. So the big challenge is to attract younger generations to take on these pressing matters. This will be the critical issue in the next research and innovation framework programme.

I will identify two more important challenges. First, we need to introduce a double concept of security and sustainability – more research and innovation in security of our citizens but also security of our energy, food and environment. The second relates to the quality of research jobs as we must address and develop knowledge-based global markets able to create better employment.

How are climate goals, research and people in Europe linked?

The next framework programme needs to impose a transformative agenda to really address people's needs. It requires us to focus more and more on citizen engagement in research and innovation.

We need to build up a network of science centres that actually engage citizens in research and innovation so that they truly understand the key role of knowledge in providing a better, more sustainable life.

How can Europe improve research careers?

This is absolutely critical. We should be very proud of the increase in the number of researchers in Europe, but we are facing an issue with the quality of research jobs. In many institutions throughout Europe, we are seeing an increasing precarity of researchers, particularly young researchers.

This will require taking the quality of research jobs into consideration in parallel with the quality and impact of research results in the assessment of every research project and action to be funded in Europe and in the design of new co-funding schemes at European and national level.

It is a difficult issue because it involves labour rules and regulations across different Member States as well as fiscal issues at the national level. But career issues are a critical challenge in Europe, particularly when we compare with the United States, because the funding has become very much associated with short-term collaborative projects. This has created an additional issue with the need to foster long-term research and careers. This needs to be a priority in the next framework programme.

How is Europe doing on levels of research funding?

The issue we need to face very urgently throughout Europe is that overall European investment in research and innovation has been quasi-stagnant over the last 30 years at about 2.2% of GDP. And it has become lower than in China, which is 2.4% and increasing, and much, much lower than in the US, which is over 3%.

When we compare the European situation with other major world players, particularly the US but also China, we need to diversify sources of funding for research and innovation.

The European target of having 3% of GDP invested in research and innovation is clearly very important and should be kept. But this will require a clear increase in overall European investment. This target is very much associated with the quality of life of future generations in Europe.

The views of the interviewee don't necessarily reflect those of the European Commission or of the expert group that he chairs.

More info

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