

EU-LIFE revives funding debate

A group of mid-level life science research institutes is reopening the debate on how to fund research at the EU level calling for a stronger emphasis on excellence

Philip Hunter

For more than a decade, European scientists have lobbied policy makers in Brussels to increase European Union (EU) funding for research and to spend the money they do provide more efficiently. This debate eventually led to the establishment of the European Research Council (ERC) in 2007, which provides significant grants and does so on the sole criterion of scientific excellence—something for which the scientific community pushed. As such, there seemed to be consensus about how to judge and fund science at the European level, including in the debate about the EU's Horizon 2020 funding scheme—the EU's framework for research and innovation—which will spend €80 billion over the next seven years (2014–2020). The conclusion seemed to be that the ERC should continue to support basic research on the basis of excellence, whereas other parts of the programme would focus on large cooperative

projects, improving the competitiveness of Europe and meeting societal challenges such as climate change and public health.

But a new body called EU-LIFE—set up in May 2013—has reopened the debate about how to fund science and is campaigning for a greater focus on rewarding excellence, even at the expense of funding projects on the grounds of fairness or to correct imbalances between EU member states. EU-LIFE was founded by 10 institutions including the Centre for Genomic Regulation (CRG; Barcelona, Spain), the Institut Curie (Paris, France) and the Max Delbrück Centre (Berlin, Germany), partly to provide a collective voice for mid-sized research institutes in the life sciences that might lack influence on their own (Table 1). The group mainly lobbies for significantly increasing the ERC budget—if not within Horizon 2020 then in the next funding period—and downgrading multinational

research networks on the grounds that they fragment resources between too many institutions and tend to reward mediocrity.

But while claiming to speak for the cause of European research as a whole, EU-LIFE also has a specific remit to speak up for its own members, mostly mid-sized institutions that consider themselves poorly represented in the corridors of EU decision-making. “There are several reasons why we decided to start this initiative,” said Luis Serrano, Director of the Centre for Genomic Biology in Barcelona, Spain, one of the EU-LIFE founders. “First we see that institutes of research do not have a voice in Brussels as a group, unlike universities or international organizations like EMBL. While in many cases our goals will be similar, this is not always the case. Second, we think that there are excellent research institutes in Europe, at the same level as many top places in the USA, that do not have

Table 1 | EU-LIFE's member institutions and the number and size of their ERC grants

Institute	Advanced grant	Starting grant	Proof-of-concept grant	Total ERC grants	Total ERC funding (million €)
Centre for Genomic Regulation (Spain)	3	9	1	13	19.0
Free University of Brussels (VIB; Belgium)	5	14	1	20	33.3
Institut Curie (France)	7	11	–	18	34.5
Max Delbrück Centre for Molecular Medicine (Germany)	4	4	–	8	15
Instituto Gulbenkian de Ciência (Portugal)	1	4	–	5	7.8
Research Centre for Molecular Medicine of the Austrian Academy of Sciences (Austria)	1	2	1	4	5.1
European Institute of Oncology (Italy)	3	1	1	5	8.7
Central European Institute of Technology (Czech Republic)	–	–	–	–	–
The Netherlands Cancer Institute (Netherlands)	6	4	–	10	19.5
Institute for Molecular Medicine Finland (Finland)	–	–	–	–	–

ERC, European Research Council.

enough visibility due to their size. By coming together and offering similar standards of quality, we want to achieve critical mass and become attractive to PhD and post-doctoral fellows from all over the world who currently mainly go to the USA. Third we think that all EU-LIFE members have specific strengths and know-how on different aspects of the life sciences. By sharing our experiences we think we could improve the quality and competitiveness of all of us."

While few scientists or policy makers would argue with EU-LIFE's aim to stimulate international collaboration and attract the best young researchers to Europe, not everyone agrees with the organization's call to do so by distributing more funds via the ERC. Although the ERC is widely regarded as successful in encouraging excellence and 'curiosity-driven' research—as opposed to distributing funds purely equitably between member countries—Mark Palmer, director of international strategy at the UK Medical Research Council (MRC), which spent £759.4 million (about €900 million) on research in the financial year 2011/2012, questions whether the ERC should receive even more funding than it does at present: "We support excellence, but if you put all the resources into one sort of mechanism, you lack the visibility for reaching across countries to join together to do research," he said. "So there is an advantage in having a mixed pot of funding. If you put too much money in the ERC it becomes so distorted that you haven't got European added value. You might as well have left the money back home and done it through the normal mechanisms."

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The ERC itself felt it was inappropriate to comment on its own budget, but Ernst-Ludwig Winnacker, who served as its secretary general from 2007 to 2009, pointed out that while he agrees in principle with the Commission's proposal to double the ERC's budget under Horizon 2020, this will not guarantee that the number of suitable high-quality applicants for funding would double as well. "Let us not forget that we are talking about scientific excellence only," Winnacker, now General Secretary of the Human

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Frontier Science Program, said. "I have often asked myself how much excellence of the level expected to get supported by the ERC do we have in Europe. Would we really be able to spend twice the amount of money at the same quality level as now? I doubt it."

Winnacker indicated therefore that the ERC budget should increase at a sustainable level that ensures that the quality of projects funded is maintained. He also highlighted another risk in focusing a growing proportion of funds through the ERC, which is that it might make other agencies envious.

Palmer, for the MRC, said that he agrees with the current level of proposed funding increase for the ERC, but argued that it is important to preserve other sources of funding that support large-scale programmes involving multiple institutions, especially in the life sciences. In particular, major clinical screening programmes call for huge samples of patients, in some cases from diverse populations, which requires international collaboration, irrespective of the individual excellence of the departments involved. "For example the EPIC [European Prospective Investigation into Cancer and Nutrition] cohort has been going 20 years with over 500,000 people across 10 different countries," Palmer said. "That diversity is something that you have to do at the European level." EPIC is the world's largest study on the relationship between diet and lifestyle factors and chronic diseases: A total of 521,457 healthy adults, mostly aged 35–70, were enrolled in 23 centres in 10 countries between 1993 and 1999, and the study showed with high statistical confidence that a modest change in lifestyle can yield a massive gain in life expectancy [1].

There may be broad agreement that large projects in biomedical research require a European-wide approach. The argument, though, boils down to whether or not funds designated for research should be used as a way of building infrastructure or collaborative frameworks alongside excellence, rather than being subordinated to it. This is the belief—and to some extent the remit—of the European Science Foundation (ESF; Strasbourg, France), which has promoted networking and the

dissemination of information among research teams whose work is already being funded by other agencies. Now this role has been passed to Science Europe, headquartered in Brussels, while the ESF is focusing on its public communication activities.

EU-LIFE will seek to collaborate with both the ESF and Science Europe, according to Michela Bertero, Head of International and Scientific Affairs at CRG. "We are in contact with both initiatives. They operate at a higher science policy level and on a larger scale, and we want to engage with them as research stakeholders," Bertero said.

Yet while the organization agrees with the ESF that science should tackle societal challenges, EU-LIFE disputes that this is best done by grants awarded solely on the basis of large collaborative projects. "Excellence should always be at the forefront for awarding grants," explained Serrano. "This does not mean that societal and industrial challenges should not be tackled. But if there is no expertise in an area, then instead of funding groups which are not competitive, money should be used to train and hire the right personnel."

By challenging Horizon 2020 to distribute more money on the basis of excellence rather than goals, EU-LIFE seems to have reopened the debate on how research funds should be spent and to what purpose. Others, however, are calling for some research money to be put towards infrastructure in regions with the potential for high-quality science, but which lack resources and laboratories. This has actually been acknowledged and catered for in Horizon 2020, according to Joanna Newman, Director of the UK Higher Education International Unit, a registered charity funded by various public bodies, which coordinates engagement between UK universities and international partners. "Excellence should be the main criterion for awarding research funding," Newman said. "As this is public money, it would be unfair to the public to fund less excellent projects. However, there is also a responsibility to help other Member States to build research capacity. Horizon 2020 will include a cross-cutting 'Spreading Excellence and Widening Participation' programme line to address this, by funding the partnering of institutions and/or researchers with different grades of current research capacity."

One European player even argues that the EU should extend this policy to assist building infrastructure in developing countries.

“Developed countries have a responsibility in helping capacity building in the field of research,” said Antoine Grassin, Directeur Général of Campus France, the country’s agency for promoting higher education and international mobility. “From that point of view, it may be very helpful for researchers from developing countries to be able to join the international scientific community, which may require financial help, such as grants.”

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In the case of Europe, Newman pointed out that links between the Horizon Framework programme and the Structural Funds to improve infrastructure and research capabilities within regions will be stronger under the 2020 regime from 2014 to 2020 compared with the current Framework Programme 7. But this alignment between the allocation of funds designated for structural purposes and those granted for research purposes is precisely one of EU-LIFE’s main complaints about the Horizon 2020 programme—the resulting allocations are not always based on excellence.

Furthermore, Winnacker argued that excellence does not mix well with other societal factors within a single programme, never mind an individual project. “If other parameters are included, politics would immediately interfere,” he said. “The ERC only survives because it has impeccable scientific standards, which politicians do not dare to touch without being ridiculed. There are enough programs in Horizon 2020, and elsewhere, like the structural funds, which can take care of regional and societal issues. These are of course important, but let’s face it, the real ‘disruptive’ innovations which create jobs only come from fundamental research.”

According to Lieve Ongena, Science Policy Manager at the Free University of Brussels (VUB; Belgium), one of the EU-LIFE founding members, it is for these sorts of reasons that EU-LIFE wants to divert more funds to the ERC. “It’s clear that the ERC is

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an absolutely necessary funding source,” she said. “The scientists can bring their own ‘pet’ project without addressing any top down action lines agreed upon by the member states. In addition, the money provides sufficient critical mass for a sufficiently long time line: five years. Above all, the evaluation excellence is the ‘sole’ selection criterion, and thus by definition grantees will help to increase Europe’s competitiveness.” Ongena emphasized that EU-LIFE would draw the attention of decision-makers to the ERC whenever possible. “Ultimately, they hope to convince ERC President Helga Nowotny to increase the budget, which is today only 17% of the speculated Horizon 2020 budget.”

The view that the ERC should become Europe’s dominant funding agency is still open to debate, however, even among institutions committed both to excellence and to supporting research at a European level. The European Molecular Biology Laboratory (EMBL) in Heidelberg obtains funding from 20 member states and its Director General Iain Mattaj argues for the continued existence of multiple funding sources. “While recognizing the very important role of the ERC in European research funding, I find it essential that research continues to be supported by a diversity of mechanisms, both national and European,” he said. “In the case of Horizon 2020, these include funding for Research Infrastructures, Marie Skłodowska Curie (MSC) Actions that fund the training of young research fellows and research in the area of Health. In particular, EMBL has advocated increased funding not only for the ERC but also for MSC Actions and for Research Infrastructures.” However, within these programmes, Mattaj emphasized that excellence should also be the main criterion for awarding grants in every case.

Meanwhile EU-LIFE also has a grander vision beyond funding to make Europe more competitive and attractive for research, according to Geert Van Minnebruggen, Integration Manager at VUB. “To keep Europe a competitive and attractive place for top scientists, we should be prepared to offer them

similar budget categories as the US and China,” Van Minnebruggen said. “EU-LIFE sees it as one of its major tasks, through dialogue with policy makers, to create awareness of this necessity.”

Palmer points out that attracting scientists from outside the EU is not just about money, but also about culture. “With a lab, the culture is pretty well English language now, people publish in English and apply for grants in English. That can be an inhibitor, both for scientists and their partners, in the case of countries where English isn’t the first language,” he said. This issue has been taken on board by EU-LIFE, according to Serrano: “All EU institutes should try to become more international, use English as the main speaking language, ensure competitiveness and external evaluations, recognize merit and support it, favour mobility, and be open to new ideas and initiatives.”

Despite disagreements over funding mechanisms and targets, there is a broad consensus that research priorities have changed and that Horizon 2020 necessarily includes a greater societal dimension. “We’re interested now in health and demographic changes and wellbeing challenges, which is very different from how they were funding science under previous frameworks,” Palmer said. “It is very much driven by the economic situation, about citizens as patients, health delivery and how to be sure patients get access to treatment.”

Ongena has similar views: “As responsible life scientists, EU-LIFE community members should do everything possible to drive basic and translational research forward and to translate findings into benefits for society,” she said. But she reiterated EU-LIFE’s position that all this should be done on the criterion of excellence only. It seems that the debates from the past decade about how to properly support research are not yet over.

CONFLICT OF INTEREST

The author declares that he has no conflict of interest.

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