RESEARCH FUNDING

Europe's €100-billion science plan

Budget proposed for European Union's next big research-funding programme.

BY INGA VESPER

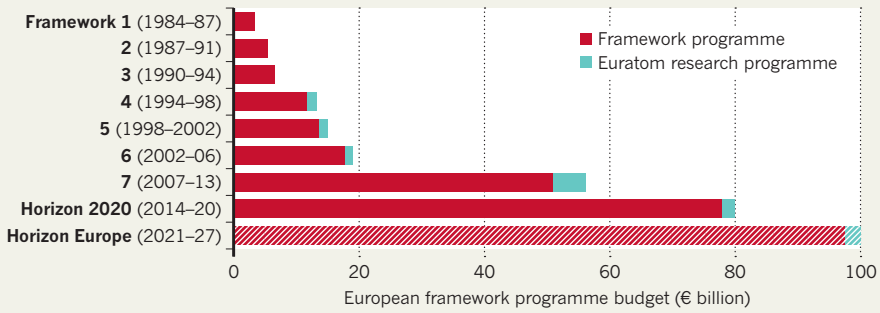
The European Union is planning to spend €100 billion (US$120 billion) on its next major research-funding programme, for 2021 to 2027 — a disappointment to some scientists and policy groups who had been hoping for up to 60% more. The budget does not include a contribution from the United Kingdom, whose departure from the bloc in 2019 is likely to shake up the distribution of funds among the remaining 27 EU countries.

The European Commission issued its opening budget proposal for Framework Programme Nine — newly named Horizon Europe, and the successor to the current programme, Horizon 2020 — on 2 May. The announcement marks the start of tough negotiations between the European Parliament and the Council of the European Union, which comprises government representatives from EU nations.

The proposed €100 billion is an increase on the €77-billion pot for Horizon 2020, which began in 2014 (see 'Europe's science spending'). However, a report by influential academic and industry experts, published last July, had urged a doubling of the budget for the next framework programme.

EUROPE'S SCIENCE SPENDING

The European Commission has proposed a €100-billion (US$120-billion) budget for Horizon Europe, the next instalment of its flagship research-funding programme, which will last from 2021 to 2027.



Euratom's budget is included as part of the framework's total funding, but its grants are distributed through a separate programme.

SOURCE: EUROPEAN COMMISSION

And in March, 13 science and higher-education organizations, including the European University Association (EUA), which represents more than 800 institutions, also demanded a €160-billion budget. "The increase is good, but it's not at the level we would consider suitable," says Enora Bennetot Pruvot, deputy director of governance, funding and policy at the EUA in Brussels.

"With the UK leaving the EU, we knew it was going to be difficult to get the €160 billion we would have liked to see," says Laura Keustermans, senior policy officer at the League of European Research Universities in Leuven, Belgium. The full proposal for Horizon Europe is expected in June. The framework is set to include funding for large, multidisciplinary 'missions' to tackle big societal questions; €10 billion has also been earmarked for research into food, agriculture and rural development. ■

BIOMEDICINE

Anti-cancer viruses take off

Encouraging study results and a handful of clinical trials spur interest in therapy approach.

BY HEIDI LEDFORD

Pharmaceutical giant Johnson & Johnson announced on 2 May that it would pay up to US$1 billion to acquire a company that makes cancer-killing viruses. The striking show of support for a still-unproven treatment is just the latest sign that industry and academics are warming to the approach.

In February, Merck, headquartered in Kenilworth, New Jersey, agreed to pay US$394 million to snatch up an Australian firm working on cancer-killing, or 'oncolytic', viruses. And in April, 300 people showed up for the oversubscribed International Oncolytic Virus Conference in Oxford, UK. When the conference launched in the early 2000s, there were only about 60 attendees. "They were very small meetings for these crazy people working with viruses," says Jean-Simon Diallo, a molecular biologist at the Ottawa Hospital Research Institute. "We've really seen a shift."

Diallo credits a couple of developments with igniting the field. One was a 2015 US Food and Drug Administration (FDA) decision to approve a modified herpes virus called talimogene laherparepvec (Imlygic) to treat some forms of melanoma. It was the first cancer-fighting virus to win regulatory support in the US market. Another development is emerging evidence — largely from animal studies — that the viruses might work better when administered in concert with therapies called checkpoint inhibitors, which boost immune responses against tumours.

People with cancer sometimes go into remission after contracting a viral infection.

"The intersection of these two events has really put some spice in the oncolytic-virus field," says Diallo. The checkpoint inhibitors in particular turned things around, he adds.

Researchers have been trying to develop cancer-fighting viruses for decades, hoping to capitalize on centuries-old observations that people with cancer sometimes go into remission after contracting a viral infection. That has spurred teams to develop a panoply of viruses that have passed through the gauntlet of a clinical trial.

Many of these trials have met with little success. Even Imlygic fell short of showing a statistically significant improvement in patient survival during a clinical trial (R. H. I. Andtbacka *et al. J. Clin. Oncol.* **33**, 2780–2788; 2015). Still, the results were enough to persuade the FDA to approve the therapy for melanomas that had resisted other treatments. That study