

News in brief

FEARS RISE THAT BRITAIN WILL LEAVE EU RESEARCH FUND

Concerns are growing that the United Kingdom is on the cusp of leaving the European Union's Horizon Europe research programme after UK science minister George Freeman (pictured) said on 8 June that "time is closing" for a positive resolution.

With a budget of almost €100 billion (US\$106 billion), Horizon Europe provides research funding for scientists in EU member states and other nations that choose to become 'associate members'. But the United Kingdom's participation in the programme has been in question since the country voted to leave the EU in 2016. In December 2020, the EU and the United Kingdom struck an agreement as part of the overall Brexit deal to continue the Horizon Europe collaboration. But issues concerning the deal's 'Northern Ireland protocol' have stalled its ratification.

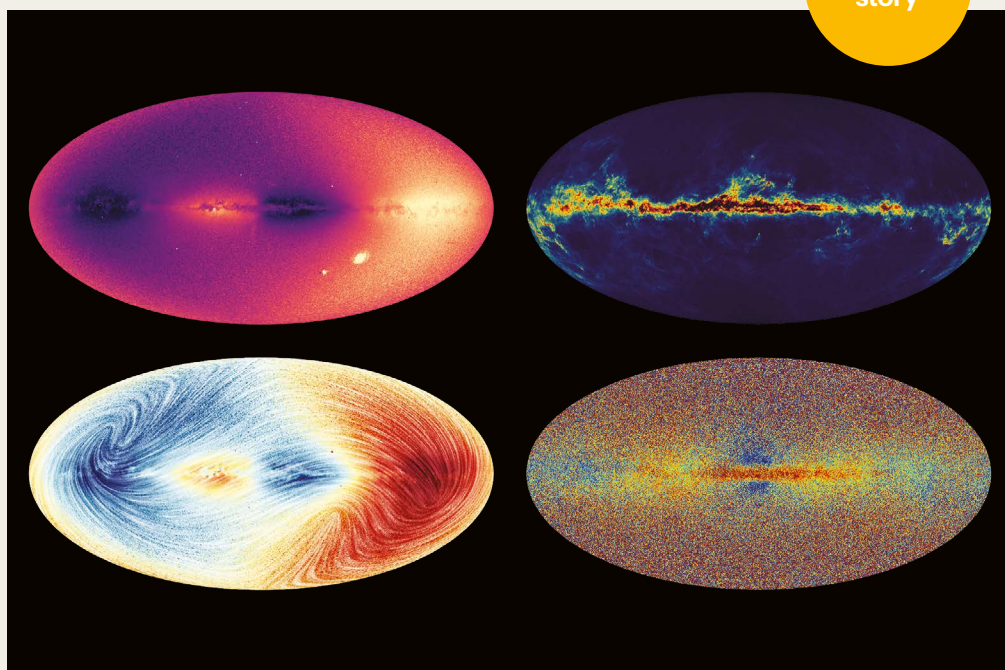
UK participation in Horizon is "being used as a bargaining chip in a much broader and bigger political negotiation", says Kieron Flanagan, a science-policy researcher at the University of Manchester, UK.

The UK government has said that if an agreement cannot be reached, it will develop its own £15-billion (US\$18.7-billion) research programme to rival Horizon Europe.



L TO R: ALAMY; ESA/GAIA/DPAC/CU6 (CC BY-SA 3.0 IGO)

Picture
story



Mega-map of Milky Way adds depth to stars' motions

Astronomers' main reference guide to the Milky Way has received a major update. The Gaia mission, in which a spacecraft is tracking nearly two billion stars, has released a vastly improved map. The map now includes the 3D motions of tens of millions of stars and thousands of asteroids – as well as the detections of stellar 'quakes' and of possible extrasolar planets.

The mission's team unveiled the trove, which consists of 34 months' worth of data, on 13 June.

Gaia was launched by the European Space Agency in 2013 and orbits the Sun at a fixed distance from Earth. It takes repeated measurements of the same stars from different perspectives. This makes each star's apparent position change by a tiny angle – typically millionths of a degree – proportional to its distance. The mission team uses such changes and a technique called parallax to calculate the star's distance from the Sun.

The biggest addition to the previous catalogue is the set of detailed spectra for about one million stars. By measuring a spectrum's Doppler shift, the team has calculated 30 million 'radial velocity' measurements. Each indicates the speed at which a star is moving towards, or away from, the Sun. Together with Gaia's measurements of the star's motion across the sky and of its distance, the data provide a full reconstruction of the star's trajectory as it circles the Galaxy.