



WHAT'S ON THE 'HORIZON' FOR AGRICULTURE?

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SPECIAL REPORT

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With a budget of €95.5 billion for 2021-2027, Horizon Europe is the largest multiannual budget for an EU research programme, with a 30% increase compared to the previous budget framework, excluding the participation of UK beneficiaries.

Food, bioeconomy, natural resources, agriculture and environment are among the priority areas earmarked for the new programme.

What kind of projects does this entail for the agriculture sector, and what impact will this have?

This EURACTIV Special Report, in collaboration with EURACTIV's partner EFE Agro, takes a look at what is on the 'horizon' for the agrifood sector when it comes to the research programme.

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Horizon Europe opens new doors to fund rural digitalisation

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By Mercedes Salas | EFE Agro



[SHUTTERSTOCK / Deyan Georgiev]

The European Union's main research programme, Horizon Europe, opens new ways to reinforce rural digitalisation and technologies in the agri-food business through international projects and funds beyond those already earmarked in the Common Agricultural Policy (CAP).

Horizon Europe is the EU's key funding programme for research and

innovation. It has a budget of €95.5 billion for 2021-2027 – the highest multiannual budget for research ever – which represents a 30% increase compared to the previous budget framework.

This amount includes €5.4 billion from the NextGenerationEU instrument, the historic recovery plan intended to help different sectors recover from the disruption caused by

the pandemic.

A total of €8.95 billion will finance projects in the field of food, bioeconomy, natural resources, agriculture and environment, which are among the priority areas included in Horizon Europe's second pillar which will address global challenges and European industrial competitiveness.

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Projects in this second pillar will have an international vocation and focus on national consortia of beneficiaries that will guarantee the collaboration between researchers and organisations from different countries, according to European Commission sources.

Horizon Europe funds are not allocated to member states. Instead, the national amount will depend on how countries take part in EU-financed programmes. For instance, Spain has been particularly active recently, being the fourth EU country with the highest economic return in the 2014-2020 budget.

According to the governmental Centre for the Development of Industrial Technology (CDTI), under the previous EU's research programme called Horizon2020, Spain received €4.76 billion (10.1 % of total research budget), behind Germany (16.4%), the United Kingdom (14%), and France (12.3%), based on figures until 2019.

For CDTI also, Spain received grants worth €1.1 billion in 2019 alone, the highest amount drawn by Spain from the research framework programme in a single year.

INNOVATIVE SOLUTIONS FOR A SUSTAINABLE AGRICULTURE

Horizon Europe is intended to generate knowledge and innovative solutions for accelerating a transition towards sustainable management of the resources. That includes measures to boost environmental changes and climate neutrality in agricultural and food systems, livestock, forestry and fisheries.

The European Institute of

Innovation and Technology (EIT) is an EU independent body that manages part of EU research funds, like Horizon Europe.

Divided into eight communities, EIT integrates companies, education centres and research labs, representing a community for the agri-food value chain and Europe's leading food innovation initiative.

EIT Food centre for Southern Europe is based in Biscay and its director Begoña Pérez-Villarreal told EFEagro that Horizon Europe means "large numbers" and underlined that "the challenge lies in the ability of agrifood stakeholders to create consortia and respond to opportunities."

The world of entrepreneurship in the agri-food sector, she added, has experienced an "excellent improvement" in the last three years: "This is an unstoppable race."

EIT Food helps companies to join in open innovation to promote their integration into the industrial fabric, she adds.

Pérez-Villarreal explained that EIT Food has worked as an accelerator for projects developing support plans for women entrepreneurs, SMEs and start-ups in agriculture, paying special attention to technologies for the use of water.

The initiative's main action field is business-to-business (B2B) operations, connecting new tech companies with traditional agrifood open-minded companies.

According to Pérez-Villarreal, Horizon Europe opens another financial door for agriculture in a

competitive environment, where the best technological ideas will get the grant if they are deemed to have a national or international impact.

"The agricultural sector is open but must open up even more [to work this way]", she concluded.

NEWBIE on the block:

How support networks can encourage farming debutants

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By Magdalena Pistorius | EURACTIV.com



Newcomers face a multitude of barriers, namely access to land, labour, capital, housing, markets, knowledge and networks. [SHUTTERSTOCK / Zoran Zeremski]

The lack of young farmers remains a major challenge for the agrifood world. EURACTIV takes a look at a new project exploring how newcomers can be supported in establishing resilient and sustainable farm businesses across Europe.

Climate change, healthy and sustainable food, environment-friendly farming practices, animal welfare, and, last but not least, food security – the challenges the European agrifood sector is facing are numerous, and they all depend on a vital factor:

farmers.

But the farming world is rapidly ageing.

As the European Commission pointed out in an [evaluation](#) published last April, in 2016, for every farm manager under the age of 40, there were three farm managers over the age of 65.

In France, the EU's biggest agricultural nation, one farmer out of two will have retired by the end of this

decade.

And overall, only 11% of European farmers are today less than 40 years old, as the European farmers' association COPA-COGECA [warned](#).

The matter is critical. As the Food and Agriculture Organisation of the United Nations (FAO) [points out](#), "generational renewal is one of the preconditions for improved competitiveness of the agricultural sector over the longer term and for sustainable food production in

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Europe”.

But while the problem is clear, the question of how to tackle this remains.

NEWBIE: TACKLING BARRIERS TO AGRICULTURAL SUCCESSION

One way to go about this was presented during the [2021 Ruralisation Conference](#) on 8 November, during a flash presentation of rural research projects.

Since 2018, the International Land Use Study Centre (ILUSC) of the British James Hutton Institute has been working on the issue of generational renewal, and more generally, farm succession, in the framework of the so-called [NEWBIE](#) project.

It stands for “New Entrant netWork: Business models for innovation, entrepreneurship and resilience in European agriculture”.

The project, running until December 2021 and co-financed by funds from the European Union's Horizon 2020 programme, aims at helping “new entrants” to “successfully establish sustainable farm businesses in Europe”.

The beneficiaries don't necessarily have to be young: New entrants are largely defined as “anyone who starts a new farm business or becomes involved in an existing farm business”, independently of age, agricultural experience and resources, according to the institute.

But as the NEWBIE project revealed, “agricultural succession is

hardly a topic in education” leading up to the launch of a farm business, Lee-Ann Sutherland, senior researcher and director of the ILUSC, explained during the conference.

“That is a real problem because new entrants are particularly vulnerable during the first two years,” she pointed out.

Newcomers face a multitude of barriers: access to land, labour, capital, housing, markets, knowledge and networks.

These barriers restrain personal success but also the overall systematic change that the European farming world is called to undergo in the coming years.

“Family successors typically either carry on the status quo or try something new that is a variation of the current farm activity,” Sutherland explained.

On the other hand, “we see much more creativity in newcomers”, she said.

The latter often promote models that are “locally bound and highly socially integrated”, according to the researcher, with a greater focus on differentiation, alternative food networks and on-farm diversification.

POLICY RECOMMENDATIONS

The NEWBIE project thus aims at creating an inventory of such innovative and currently successful business models, but also at establishing support networks for new entrants.

In dedicated discussion circles, newcomers, experienced farmers, stakeholders, policymakers, and advisers discuss promising approaches and the questions of access to land and labour, farm succession, cooperation in agriculture and the future of agriculture in a changing environment, Sutherland explained.

The researcher also put forward a list of policy recommendations based on the findings of the project.

These include financial aid, such as low-interest loans, tax relief and business incubation, a better knowledge transfer through skills training and advisory services, and political measures to favour the access to land and the farm transfer, such as creating national farmland reserves or addressing land abandonment.

Sutherland also underlined the necessity to support renewal by, for example, giving a more flexible definition of “new entrants” in policymaking or by including part-time farmers in the target group.

Last but not least, long-term policy measures to support new entrants were critical to “give them a sense of security”, she said.

Reinforced Horizon budget for 2022 is good news for agrifood

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By *Natasha Foote* | EURACTIV.com



While the final deal was lower than the Parliament was vying for, one winner of the negotiations included the EU's research and innovation programme, Horizon Europe. [SHUTTERSTOCK]

The European Parliament approved the 2022 budget, giving the EU's research programme a €100 million boost, much to the relief of agricultural stakeholders, who previously warned of the impact a cut in funding would have for the sector's sustainability goals.

On Wednesday (24 November), MEPs approved a budget amounting to €169.5 billion in commitment appropriations and €170.6 billion in payment appropriations.

The path to agreeing on the budget was not smooth, with concerns that the Council would not sign off on the Parliament's more ambitious proposal.

While the final deal was lower than Parliament hoped, one winner of the negotiations was the EU's research and innovation programme, Horizon Europe.

The programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting and implementing EU policies while tackling global challenges.

At the beginning of negotiations, Parliament pushed for an extra €305 million on top of the Commission's proposed budget for the EU's research programme.

In the end, MEPs convinced member states to allocate a bit less but still an extra €100 million to Horizon Europe. At the same time, a further €50 million has been earmarked for the climate and biodiversity programme LIFE.

This was welcomed by Green MEP Henrike Hahn, who said on [Twitter](#) that reaching climate neutrality by 2050 is "only possible" with a robust EU budget that provides more money for climate protection, biodiversity and research and development.

WELCOME NEWS FOR THE AGRICULTURAL SECTOR

This news is crucial for the

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agricultural sector as it is one of the research programme's key focus areas, according to Nora Hiller, policy analyst on land use and climate at the Institute for European Environmental Policy (IEEP).

She told EURACTIV that the new 'missions' approach of Horizon Europe is designed to bring concrete solutions to some of the sector's most significant challenges.

"They aim at bringing tangible benefits to people in Europe and engage Europeans in their design, implementation and monitoring," she explained.

According to Hiller, even though the agreement falls short of the Parliament's original demands, the outcome for the agricultural sector is "overall positive."

She also stressed that Horizon Europe plays a "crucial role in achieving systemic change" in the agricultural sector.

Research remains crucial in achieving the EU's sustainable ambitions as outlined in the EU's Green Deal and flagship food and farming policy, the Farm to Fork strategy, and the international commitments in the Paris Climate Agreement.

"Research and innovation (R&I) plays a distinct role in these strategies, and particularly in light of the latest IPCC report, the need for innovation, both social and technological, is immense," she said.

She added that this is especially important given that agriculture is a significant contributor to greenhouse gas (GHG) emissions. Therefore, it

must do its fair share to contribute to the EU's climate and environmental targets.

For Hiller, a reduced Horizon Europe budget would have negatively impacted the start of the Horizon Europe missions.

This would have also placed more burden on the EU's farming subsidy programme, the Common Agricultural Policy (CAP), which was agreed on Tuesday (23 November).

"Cutting EU R&I budget would push member states to compensate with national funding," she said, adding that, as there are significant discrepancies across the EU on the money spent on research and development (R&D) in agriculture/food, this would have risked increasing them further.

FUTURE FOCUS

Looking to the future, IEEP's Hiller outlined a list of research needs and gaps that the research funding should address.

She highlighted soil degradation, in particular, as a critical area where Horizon Europe research funding could be employed, pointing out that there is a need to understand "complex factors of soil quality and functions", as well as advancing carbon farming and nutrient loss.

"There is a strong need to find effective ways to preserve soil biodiversity and to promote the application of sustainable management practices," she pointed out.

The IEEP also pointed to the need to support the protein transition,

suggesting resources should be put towards evidence-based evaluations of health and nutritional benefits of low animal protein diets and effective integration of legume crops in farming systems, as well as short food supply chains.

A key focus of the F2F strategy, Hiller said that the health and nutrition aspects of these shorter supply chains was "under-researched" and warranted more attention.

Lastly, she pointed to the need to develop good quality monitoring tools for pests and pesticides, as well as methods to boost natural crop protection through "landscape planning and biocontrol, reducing pest resistance and increasing plant and system resilience."

EU earmarks €320 million for soil health research to contribute to carbon removal

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By Julia Dahm | EURACTIV.com



The funding from the EU's framework programme for research and innovation will be used to support "living labs and lighthouses to lead to transition towards healthy soils". [Shutterstock]

The European Union is stepping up efforts on soil health research with the announcement of a new Horizon Europe mission, which will also provide key funding for the promotion of carbon farming.

The new €320 million Horizon Europe [mission](#), announced at the end of September, aims to spur the transition to healthy soils by 2030, in line with Green Deal commitments for climate, biodiversity, zero pollution, and sustainable food systems.

The funding from the EU's

framework programme for research and innovation will support living labs and lighthouses to lead the transition towards healthy soils.

According to the European Commission, the programme aims to engage with people and create effective partnerships to protect and restore soils across sectors and territories.

In this way, it contributes to targets on sustainable farming, biodiversity, and zero-pollution set by the bloc's flagship policy, the European Green

Deal.

The measure is set to complement the EU's soil strategy, which, together with the recently launched European Soil Observatory, will form part of a comprehensive framework to address soil and land stewardship at a large scale across land uses.

Environment Commissioner Virginijus Sinkevičius has previously stressed the importance of research "to foster the transition to sustainable soil management in agricultural land."

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“Farmers will be closely involved and will benefit from investments in knowledge exchange and development,” he said during his presentation of the Commission’s new soil strategy on 17 November.

The European Commission estimates that costs associated with soil degradation in the EU exceed €50 billion per year. Moreover, 60-70% of soils in Europe are considered to be “unhealthy”.

Through the research funding provided by the soil mission, the EU now hopes to bring the percentage of healthy soils up to at least 75% in each EU member state.

Poor soil health can affect ecosystem services such as clean water, biodiversity, and climate regulation.

CARBON FARMING STRATEGY

A key area of research and innovation to be funded by the mission is carbon farming, according to a leaked draft of the carbon strategy, which was first obtained by French news site Contexte.

To this end, the living laboratories and lighthouses programme is set to support will “serve to test, demonstrate and upscale solutions for carbon farming,” the document reads.

In future programming periods, the Commission will increase the focus on carbon farming within Horizon Europe to develop digital and data technologies for more efficient carbon removal and better emissions estimates.

Apart from carbon farming, the mission is also set to “support efforts for harmonised soil monitoring in Europe,” according to the draft.

According to the Commission, such research has various benefits. The knowledge and tools developed on this basis can serve to develop soil, further enhancing production systems or enhancing the role of livestock in soil management.

In the Horizon Europe mission, “living labs” and “lighthouses” are “spaces for co-innovation through participatory, transdisciplinary and systemic research.”

In practice, these living labs are set to allow landowners and land managers and other stakeholders, public authorities and citizens to work together with researchers from multiple disciplines.

Lighthouses are envisioned as spaces for demonstrating solutions, training, and communication. According to the mission draft, this can involve showcasing best practices or building partnerships across value chains.

The plans for a soil mission were welcomed by several organisations involved in the planning process through an advisory expert panel.

The mission focuses “on mobilising and creating an enabling environment for sustainable soil management throughout the EU looking at public policies, investments, citizen engagement, and information campaigns,” as stated by the European Regions Research and Innovation Network (ERRIN) reads.

The regional and local levels

are “crucial to achieving long-term impact,” it goes on to add.

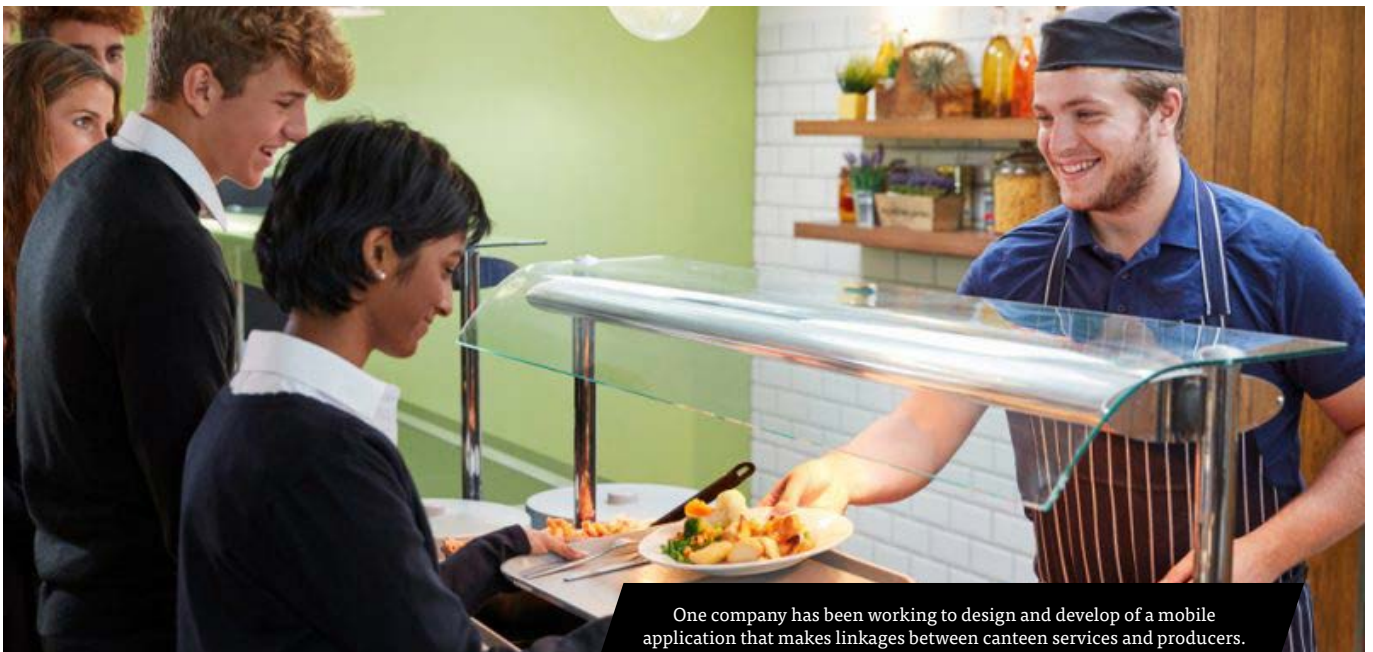
The Institute for European Environmental Policy (IEEP) also welcomed the launch of the soil mission, saying that the focus on living labs and lighthouses was a “strong suit” of the programme.

The mission can play a role in enhancing the soil strategy if it is used “to make updated evidence and sustainable solutions available to policymakers,” a spokesperson told EURACTIV.

Research centres act as 'matchmakers' to modernise Spanish agriculture

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By Mercedes Salas | EFE Agro



One company has been working to design and develop of a mobile application that makes linkages between canteen services and producers. [SHUTTERSTOCK]

This article is also available in [Spanish](#).

From matching farms with tech start-ups to pairing vegetable producers with school canteens and families, new EU research programmes are playing matchmaker to spur innovation and reinforce agriculture modernisation in Spain. [EFE Agro reports](#).

The projects, funded via the EU's €95.5 billion research and innovation programme, Horizon Europe, aims to highlight the value of these alliances

for agriculture, according to Begoña Pérez-Villarreal, director of the European Institute of Innovation and Technology (EIT) Food CLC South, one of the recipients of EU funding.

"We act as matchmakers between farmers and new companies," she told EFE Agro.

The institute is an independent EU body that integrates companies, education centres and research labs. EIT Food is one of its eight communities and operates in the B2B (business to business) field.

MERGING TRADITION AND AVANT-GARDE

EIT Food branch for Southern Europe selects projects from new companies and accompanies them to grow for periods of six months by putting them in contact with agri-food producers, Pérez-Villarreal explained.

"We look for matches for start-ups, many of them with an important digital component," she said.

The targets of the search are Spanish "open-minded" farmers or

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livestock farmers who are ready to use part of their farm to test new technologies.

EIT Food has also organised “roadshows” where traditional and emerging companies meet and identify the problems and solutions to be more competitive.

Every year, Pérez-Villarreal explained, EIT Food selects the best projects among 800 or 900 startups with technologies linked to food.

Some stand out examples include a company that offers artificial intelligence to eliminate weeds, using a robot with laser technology.

Meanwhile, others are dedicated to producing fertilisers with natural components or digitally managing the temperature, light, and nutrients of the soil.

CANTEEN CATERING FOR SUSTAINABILITY

The Basque technology centre AZTI is another such company taking advantage of the EU funding on offer to offer similar programmes.

The centre takes part in research projects to improve the short food supply chain and reinforce digitalisation and a sustainable circular economy.

The project comes on the back of mounting efforts to strengthen the local supply chain, as outlined in the EU's flagship food policy, the Farm to Fork strategy.

Carolina Najar, head of food and value of AZTI, highlights the connection between companies at the local or regional level.

“Considering the needs and expectations of all the agents involved (families, canteen service, monitors...) we have worked on the design and development of a mobile application that allows interaction between the canteen service and families”, said Najar.

This application also contains “valuable content” that facilitates the exchange of information in both directions (incidents, child behaviour), as well as advice and guidelines to promote healthier and more sustainable options among families, favouring the supply of local producers.

She highlights among their work the connection between companies at the local or regional level.

For example, in order to hit the ambitious target of 25% of agricultural land in the EU farmed organically by 2030, the recently released Organic Action Plan, which aims to boost the production and consumption of organic products, places an emphasis on the potential of green public procurement.

This includes prioritising short supply chain organic food in the EU's school scheme, which supports food distribution to millions of schoolchildren across the EU. AZTI invites companies to take part in European projects or in alliances through the whole value chain, because “digitalisation improves the quality of food”, according to Najar.

AZTI is also developing another research programme, in collaboration with the Universities of Leuven (Belgium) and Oxford (UK), for measuring the impact of the

environmental footprint of food.



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