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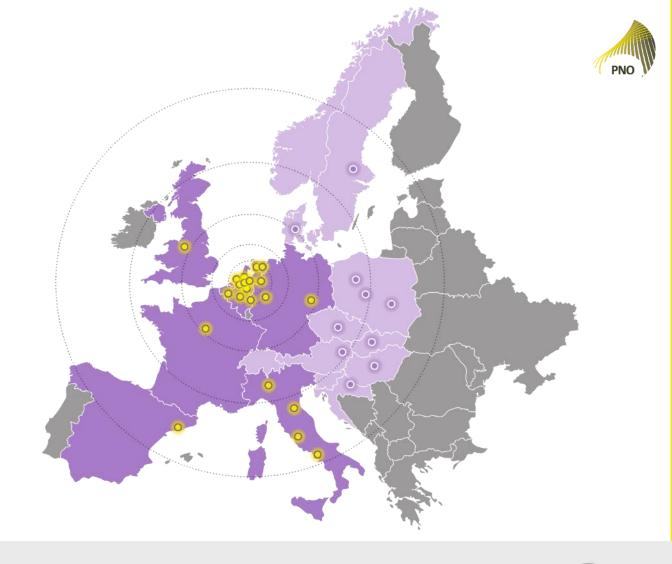


AMBITION | DEVELOPMENT | FUNDING | IMPACT

OUR COMPANY

PNO CONSULTANTS

EVERY INNOVATION STARTS WITH ONE GOOD IDEA AND A LOT OF PASSION. THOSE ARE TRAITS WE RECOGNISE – BECAUSE WE STARTED OUT THE SAME WAY. FROM OUR START-UP ROOTS, WE HAVE GROWN TO BECOME MARKET LEADER IN INNOVATION AND FUNDING SERVICES IN EUROPE, WITH OFFICES IN 7 EUROPEAN COUNTRIES (UK, ITALY, SPAIN, FRANCE, GERMANY, BELGIUM, THE NETHERLANDS), OUR COMPANY IS CONNECTED TO A GLOBAL NETWORK OF NATIONAL AND REGIONAL CREATIVE PARTNERS:
MULTINATIONALS, START-UPS, RTOS AND UNIVERSITIES, SECTOR AND PUBLIC ORGANISATIONS. FROM THIS UNIQUE NETWORK, WE WORK ON FOSTERING CONNECTIONS AND STIMULATING, REALISING AND FINANCING INNOVATION IN AN EVER FASTER AND MORE COMPLEX INNOVATION LANDSCAPE – CHANGING THE WORLD FOR THE BETTER.



KEY FACTS





/ Countries



per year





FUNDING PROGRAM ANALYSIS



Towards the first Strategic Plan for Horizon Europe: Main Clusters and R&I priority areas/potential topics

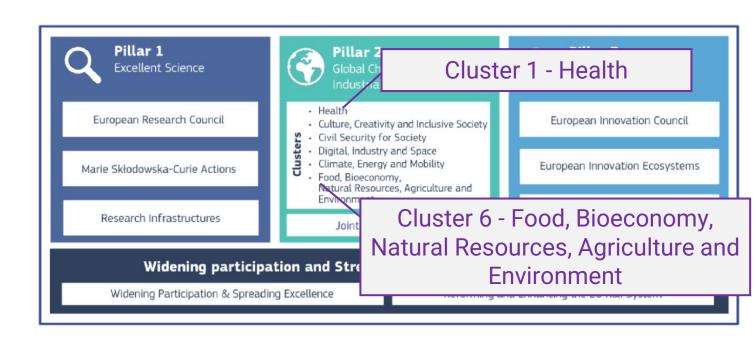
HEU Key information

KEY INFORMATION

Main focus	The new Framework programme for Research and Innovation All EU27 MSs and Associated Countries	
Eligible countries		
Overall budget	€ 95.5 Bln	
Average budget per project	€ 5-15 Mln	
Typical consortium size and project duration	5-15 partners (minimum 3 independent legal entities from 3 MS or AC) over 2-5 years	
Typical TRL	1-7 (Action specific)	
Funding rates	60%, 70% or 100% (Action specific) + 25% overhead	
Financial decision and application management	European Commission	

Horizon Europe is the is the largest EU's largest R&I framework programme ever with a proposed budget of €100 billion (2021-2027). General objectives: deliver scientific, technological, economic and societal impact from the Union's investments in R&I, to strengthen the scientific and technological bases of the Union, and foster its competitiveness in all Member States.

Horizon Europe is structured as follows:





Focus on Pillar 2: types of actions



	Research Innovation Action (RIA)	Innovation Action (IA)	networking actions between	
Objective	Establish new knowledge or to explore the feasibility of a new or improved technology, product, process, service or solution.	Prototyping, testing, demonstrating, piloting, large-scale product validation and market replication		
Funding	100%	60-70% for profit, 100% non-profit	100%	
Typical	36-48 months	30-36 months	12-30 months	

Timeline



Color coding – Active Intervention Lines

- Omics and Al approaches for nutrition:
 - 1) Identification and study of biomarkers panels based on AI approaches and Omics sciences to define the health status of the patient and validate the impact of specific nutritional interventions aimed at functional recovering and minimising the risks of adverse events occurrence; 2) Development of personalised intervention and communication strategies to increase knowledge and consciousness on good nutritional practice, contributing to prevent adverse events occurrence.
- Regional platform for development and validation of novel nutraceutical products for target pathologies:

 Definition of preclinical models and protocols to carry out screening and validation of putraceuticals candidates for

Definition of preclinical models and protocols to carry out screening and validation of nutraceuticals candidates for use in clinical trials; Definition of guidelines and design for clinical trials involving nutraceuticals, functional foods and food supplements

3 Safety and Sustainability of the food supply chain:

Development of guidelines for quality and efficient management of crops through adoption of novel alternatives to the conventional synthetic agro-drugs to ensure food safety and healthiness.

Relevance of selected funding opportunities

Opportunities that fit your intervention lines:

	Programme-Call	Budget	TRL	Relevance
1	HORIZON-HLTH-2022-STAYHLTH-01-04-two-stage: Trustworthy artificial intelligence (AI) tools to predict the risk of chronic non-communicable diseases and/or their progression (RIA)	€ 6 mln	3-5	Development of AI-based tools for NCD disease risk assessment (including diseases related to nutrition) and personalized intervention.
1	HORIZON-CL6-2022-FARM2FORK-01-10: Integrated surveillance system to prevent and reduce diet-related non communicable diseases (NCDs)	€ 11 mln	3-5	Development of standardized methods for collecting and development of advanced and easy-to-use biomarkers for diet related NCDs
1	HORIZON-HLTH-2022-STAYHLTH-01-05-two-stage: Prevention of obesity throughout the life course (RIA)	€ 11 mln	3-5	Identification of biological pathways and qualified biomarkers aimed at guidelines development.

Other interesting opportunities in which you could contribute:

Programme-Call	Budget	TRL	Relevance
HORIZON-CL6-2022-FARM2FORK-01-01: Risk assessment of new low risk pesticides (RIA)	€7 mln	3-5	Development of safe and eco-friendly methodologies for plant protection, improving the risk-assessment and fostering EU regulatory science for novel low-risk pesticides.



HORIZON-HLTH-2022-STAYHLTH-01-04-two-stage: Trustworthy artificial intelligence (AI) tools to predict the risk of chronic non-communicable diseases and/or their progression (RIA)



KEY INFORMATION

Time frame	Opening: 06 Oct 2021	
	Deadline(s):	
	01 Feb 2022 (1st stage)	
	06 Sep 2022 (2nd stage)	
Type of Action	RIA	
TRL expected at the end of the	4-5	
project	4-0	
Budgets (EUR million)	60	
Expected EU contribution per	6	
project (EUR million)	0	
Number of projects expected	10	
to be funded	10	

OBJECTIVE & SCOPE

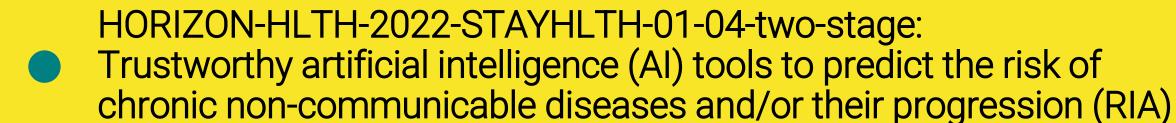
It is widely recognised that health systems must put more emphasis on prevention and adopt a person-centred approach. Artificial intelligence (AI) along with the increased availability of health data hold great potential to pave the way for personalised prevention and enable progress towards risk prediction and early detection of chronic non-communicable diseases.

This topic will support multidisciplinary research, build on broad stakeholder engagement and support proposals developing novel robust and trustworthy AI tools to enable timely personalised prevention approaches for chronic non-communicable diseases/disorders. The topic does not exclude any diseases/disorders.

Proposals are expected to develop and test AI tools for assessing and predicting the risk of developing a disease and/or the risk of disease progression once it is diagnosed, taking into account the individuals' (or groups) genotypes, phenotypes, life-style, occupational/environmental stressors and/or socio-economic and behavioural characteristics, as necessary.

The AI tools may include a broad range of technological solutions on their own and/or in combination with other relevant state-of-the-art technologies (i.e. AI algorithms, mobile apps and sensors, robotics, e-health tools, telemedicine etc.)

Proposals should implement proof-of-concept studies to test and validate the performance of their AI tools in the real-world setting and compare their performance to the established practice.





Proposals should address all of the following:

- Leverage existing high-quality health-relevant data from multiple sources (i.e. cohorts, electronic health records and registries, taking into account the individual's genotypic/phenotypic, medical, life-style, socio-economic, behavioural data etc.) and/or generation of new high-quality health data necessary for the rigorous development of the AI disease-risk tools.
- Develop the adequate performance metrics to assess the technical robustness of the developed AI tools for risk assessment of disease and/or disease progression and in particular their accuracy, reliability, reproducibility and generalisability. Proposals should assess the possible inherent bias introduced to the AI tools originating from the data quality used for their development.
- Develop the criteria to assess the effectiveness of the AI tools for disease risk assessment in terms of improving health outcomes and enabling personalised prevention strategies.
- Implement proof of concept and/or feasibility studies to validate the AI tools for risk assessment of disease and/or disease progression in a relevant end-users environment and/or real-world setting and assess their performance in comparison to the standard-of-care.



HORIZON-HLTH-2022-STAYHLTH-01-04-two-stage: Trustworthy artificial intelligence (AI) tools to predict the risk of chronic non-communicable diseases and/or their progression (RIA)



EXPECTED OUTCOME

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 1 "Staying healthy in a rapidly changing society". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes.

- Clinicians, medical professionals and citizens have access to and use validated AI tools for disease risk assessment. Hence, citizens are better informed for managing their own health.
- Health care professionals utilise robust, trustworthy and privacy-preserving AI tools that help them to assess and predict the risk for and/or progression of chronic non-communicable diseases. Hence, citizens benefit from improved health outcomes.
- Health care professionals develop evidence-based recommendations and guidelines for the implementation of AI-based personalised prevention strategies. Hence, citizens benefit from optimized health care measures superior to the standard-of-care.
- Health care professionals employ quantitative indicators in order to identify and follow-up on individuals with high risk for the development and/or risk for the progression of chronic non-communicable diseases.

HORIZON-CL6-2022-FARM2FORK-01-10: Integrated surveillance system to prevent and reduce diet-related non communicable diseases (NCDs)



KEY INFORMATION

	Opening: 28 Oct 2021	
Time frame	Deadline(s):	
	15 Feb 2022	
Type of Action	RIA	
TRL expected at the end of the	4-5	
project		
Budgets (EUR million)	11	
Expected EU contribution per project (EUR million)	11	
Number of projects expected to be funded	1	

OBJECTIVE & SCOPE

Unsustainable and unhealthy diets, with an increased demand for livestock products and calorie-dense and nutrient-poor foods that are often highly processed (high in calories, sugars, sodium/salt, saturated fat and alcohol, and low in wholegrains, fruits and vegetables, legumes, nuts and seeds), are the leading NCD risk factor and a driver of high obesity rates.

The complexity of the interactions between diet and human health requires multi-level engagement and inter- and transdisciplinary approaches to improve public health and reduce Europe's major health and economic burden. The development societally acceptable of new approaches/strategies/tools for healthy and sustainable diets that reduce diet-related NCDs requires a systemic approach involving a wide diversity of actors and sectors at different levels (from local to international). These include policy makers and public authorities, health care providers, schools and higher education establishments, food producers and processors, retailers, hospitality and food services (e.g. restaurants, canteens), researchers, non-governmental consumer and patient organisations, science brokers and private individuals.



HORIZON-CL6-2022-FARM2FORK-01-10: Integrated surveillance system to prevent and reduce diet-related non-communicable diseases (NCDs)



Proposals are expected to address the following:

- Mapping and monitoring of the diet-related NCD situation (e.g. cardiovascular and heart diseases, obesity, diabetes, cancer and allergies) at the EU level, based on a literature review to better understand the relationship between lifestyle (including diet, nutrition and alcohol, physical activity), physiological and genetic parameters including the human microbiome, gender and sex, geographical placement (national/regional/neighbourhood and rural/urban zone), socio-economic, cultural and environmental (with particular reference to the human exposome) factors, biological parameters (including genomics and microbiomes), and the risk of NCDs.
- Development of standardised methods for collecting (missing) data, using existing data/studies/cohorts and increasing the use of big data and artificial intelligence to elucidate the complex interactions between diet and human health.
- Development of advanced and easy-to-use biomarkers of risk/response for NCDs, including non-invasive and microbiome-based ones.
- Assessment and monitoring of the impact of existing measures/interventions/policies in the EU on reducing NCDs.
- Investigating and generating a strong evidence base for the key physiological processes involved in the development of NCDs and how they may be affected by nutrition (from specific nutrient, dietary components to foods and dietary patterns) and other factors (e.g. geographical, biological, socio-economic, cultural, environmental, educational), taking into account individual genotype-phenotype status.
- Development of a strong evidence base on the risks of unhealthy diet and unhealthy food (high in calories, sugars, sodium/salt, saturated fat and alcohol, low in wholegrains, fruits and vegetables, legumes, nuts and seeds, and often highly processed) within the development of NCDs versus healthy food/products.



HORIZON-CL6-2022-FARM2FORK-01-10: Integrated surveillance system to prevent and reduce diet-related non communicable diseases (NCDs)



Proposals are expected to address the following:

- Identifying high risk/vulnerable populations across Europe, better understanding their predisposition to diet-related diseases, and designing specific hypothesis-driven research and well-controlled intervention studies with very strict conditions to reduce dietary and health inequalities in different countries, regions, rural and urban areas.
- Developing more targeted recommendations for effective and cost-efficient integrated policies (such as social, fiscal, regulatory, marketing) in the short-, medium- and long term. These are to support Member States and associated countries and policy makers in designing effective and cost-efficient policies that focus on prevention and promote healthy diets to reduce diet-related NCDs, taking into account environmental, gender, social and economic sustainability aspects.
- Undertaking risk/benefit cost analyses for the different options proposed to better predict and understand effective and long-term impacts and facilitate informed policy decisions and societal debate



HORIZON-HLTH-2022-STAYHLTH-01-05-two-stage: Prevention of obesity throughout the life course (RIA)



KEY INFORMATION

	Opening: 06 Oct 2021	
Time frame	Deadline(s):	
	01 Feb 2022 (1st stage)	
	06 Sep 2022 (2nd stage)	
Type of Action	RIA	
TRL expected at the end of the	3-5	
project		
Budgets (EUR million)	60	
Expected EU contribution per project (EUR million)	10	
Number of projects expected to be funded	6	

OBJECTIVE & SCOPE

Obesity is one of the most serious public health challenges of the 21st century. Although health has improved in the EU over the last decades, the prevalence of obesity has tripled in many countries of the EU. It is known that once individuals become overweight or obese, they are at risk of developing related diseases (diabetes, cardiovascular diseases, cancer).

Overweight and obesity are largely preventable. In the current pandemic, the issue of overweight/obesity has become even more prominent, highlighting the need for prevention of overweight/obesity.

Increased efforts in research and innovation are critical for developing and testing the impact of tools, initiatives, interventions, strategies, programmes, policies and their implementation to prevent overweight/obesity. The use of best practices, harmonisation guidelines and/or standard operating procedures, developed at various levels (from local to national) in the EU and beyond, will be the foundation for new research.

Strong collaborations across sectors and with other European projects dealing with issues such as agriculture, aquaculture, food, environment, etc. are welcome. Proposals should engage citizens, civil society organisations (e.g. employers/employee organisations, charities), authorities (e.g. municipalities and health authorities) and institutions (schools, canteens, hospitals, work places, shopping malls, sport centres), local producers, etc. in the development of their actions to ensure acceptability and deployment. Proposals should aim to develop scientifically robust and transparent methodologies, building on achievements from previous research activities.





Proposals should address several of the following research bottlenecks:

- A comprehensive understanding of biological pathways (genetic, epigenetic, molecular, microbiome, and/or neuroimmune) conferring susceptibility to and protecting against uncontrolled "weight gain".
- Identification of socio-economic and lifestyle factors influencing consumer behaviour and their association to overweight/obesity prevention.
- Identification of pre-obesity biomarkers (genetic, laboratory, imaging, etc.) and their association to lifestyle and environmental interventions aiming at obesity prevention and tailored to specific target populations.
- Mapping existing implementation research activities to prevent overweight/obesity, outcome analyses and identification of best practices.
- Conducting a thorough meta-review of information from available scientific literature and identification of the relationship between the risk for overweight/obesity and the biology of obesity, lifestyle habits, exposures, susceptibility to co-morbidities and/or all of their combinations.
- Developing recommendations and guidelines for what constitutes an appropriate healthy diet for different age and health groups.
- Understanding the causal links between overweight/obesity and sedentary behaviour, quality and quantity and types of food/drinks, physical activity, and personality traits.
- Designing a creative and engaging programme to reach the optimal balance between diets and physical activity for the prevention of overweight/obesity.
- Analysing obesity stigma, stress and work-life balance, circadian rhythm disruption, mental health (including psychological problems), screen-time dependency, drugs and side effect of drugs, for the prevention of overweight/obesity.

HORIZON-HLTH-2022-STAYHLTH-01-05-two-stage: Prevention of obesity throughout the life course (RIA)



- Addressing inequality aspects of overweight/obesity at multiple levels, taking into account vulnerable groups, gender and socioeconomic factors.
- Setting up pilots to assess the effectiveness of obesity management strategies, including cost-effectiveness, and analyse the impact of inactions, taking into account co-morbidities and value-based care system.
- Developing a system for monitoring population indicators relevant to overweight/obesity by extending European Core Health Indicators.

EXPECTED OUTCOME

- Researchers, developers of medical interventions, and health care professionals have a much better understanding of basic biological pathways (genetic and epigenetic blueprints) conferring susceptibility to and protecting against overweight/obesity.
- Health care professionals, national/regional/local public authorities and other relevant actors:
 - Have access to, adopt and implement evidence-based clinical guidelines, best practices, coordinated, pan-European, multidisciplinary preventive strategies, policy recommendations and/or new policies to fight overweight/obesity and their comorbidities throughout the life course.
 - Have access to and make use of a robust outcomes framework and tool-kit for standardised collection of economic and cost data related to the prevention and treatment of overweight/obesity and its co-morbidities at population level across European regions and countries.
 - Adopt and implement tailor-made prevention campaigns to tackle overweight/obesity, including campaigns for improving
 integration of health education into academic learning and raising awareness of health care providers and citizens.
- Citizens have access to and make use of new tools and services to make informed decisions about lifestyle choices that will prevent them from becoming overweight/obese.



HORIZON-CL6-2022-FARM2FORK-01-01: Risk assessment of new low risk pesticides (RIA)



KEY INFORMATION

Time frame	Opening: 28 Oct 2021
	Deadline: 15 Feb 2022
Type of Action	RIA
TRL expected at the end of the	3-5
project	
Budgets (EUR million)	7
Expected EU contribution per	7
project (EUR million)	
Number of projects expected to	1
be funded	1

OBJECTIVE & SCOPE

Concerns are mounting over the effects of pesticides on the environment, non-target organisms and human health. Member States and EU policies seek to reduce the reliance on chemical pesticides for crop protection through the design and implementation of approaches that are more integrated and include restrictions on the use of several active substances. To ensure the lowest risk to human health and the environment, the development of so-called low-risk substances is encouraged by several regulatory incentives in the EU. However, the changing nature of low-risk plant protection products requires increased capacities in risk assessment. The plant protection products approval and authorization process has to keep pace with scientific and technological developments aiming to advance assessment methods of new low-risk plant protection products.

New products may seek EU market regulatory approval, thus proposals should need to consider and address relevant EU regulatory requirements as well as relevant guidance documents that are to be followed for the specific hazard characterisation and exposure assessment to achieve an appropriate risk assessment.

Proposals should contribute to:

 improve the risk assessment of newly proposed or specifically adapted low-risk pesticides such as new species/strains of microorganisms, ds-RNA-based pesticides, pheromones, plant extracts, and/or microbiome solutions or a new mode of application with the use of relevant methods;





- develop and advance the integration of different tools, technologies and methodologies to support the comprehensive and consistent risk assessments of new low-risk pesticides to ensure safety and sustainability;
- contribute to understanding the biological effects of these new substances and/or products;
- assess the impacts and risks of these new substances and/or products;
- assess and improve the level of certainty in risk assessments of new low-risk pesticides;
- identify the relevant additional studies required for assessing these new low-risk pesticides in order to establish that they have a hazard profile compatible with their classification as low-risk substances and plant protection products;
- contribute to the standardisation and validation of the developed tools, technologies and methods for risk assessments.



HORIZON-CL6-2022-FARM2FORK-01-01: Risk assessment of new low risk pesticides (RIA)



EXPECTED OUTCOME

In line with the farm to fork strategy, for a transition to fair, healthy and resilient EU agriculture and forestry, including an ambitious target of the reduced use of plant protection products, the successful proposal will support research and innovation (R&I) to help agriculture / forestry sectors to remain productive and contribute to sustainable agriculture and forest health.

Project results are expected to contribute to all of the following expected outcomes:

- improve risk assessment of new so-called low-risk substances and plant protection products with the use of relevant methods;
- foster EU regulatory science and risk assessment of new low-risk pesticides for agriculture;
- ensure the safety of new low-risk pesticides used in agriculture through robust and transparent risk assessment;
- increase the availability of safe and environmentally friendly methods for plant protection and weed control to reduce risks to the environment, non-target organisms and human health.





Circular Bio-based Europe
Joint Undertaking



The scope of the Circular Bio-based Europe Joint Undertaking (CBE-JU)

- The Circular Bio-based Europe Joint Undertaking (CBE JU) will be the successor of the previous Bio-based Industry (BBI JU) for the 2021-2027 period, as agreed by the European Commission on the 23rd of February 2021.
- > CBE will build on the success of BBI JU to **enlarge its scope** and address **technologic**, **regulatory** and **market challenges** of the bio-based industries.
- > CBE JU partnership will **support circular approaches** such as the use of biological waste from agriculture, industry and municipal sectors to produce new bio-based products, goods and materials.
- ➤ CBE's targets will be investing in R&I across scientific disciplines that support bioeconomy and stimulating its uptake by the industry, thus helping to deploy bio-based innovation at regional scale with the view to revive rural and marginal regions.
- > Sustainability and biodiversity will be placed at the heart of CBE JU. Part of the research efforts will focus on increasing the sustainability of the bio-based industry's production processes, and a robust monitoring system will be put in place to measure the environmental and socio-economic impact of CBE projects.
- > CBE JU is also expected **to engage further with industry and policy stakeholders** to contribute to a more coherent, supportive and stable regulatory framework, to raise awareness about the potential of bio-based industries and facilitate its uptake in Europe.

Objectives

OR AFT

General Objectives:

Improve the R&I capacity on circular bio-based solutions and ensure better knowledge sharing

(scientific objective)

Improve the competitiveness of the circular bio-based sector in the regions

(economic/technological objective)

Maintain the long-lasting global competitiveness of the European bio-based industry

(economic/technological objective)

Contribute to a circular economy that operates within planetary boundaries and improve circularity in the biobased economy

(societal objective including environmental and social objectives)

Specific Objectives:

Foster and promote R&I in circular biobased products and processes

Improve knowledge sharing and transfer from research projects Support the development and consolidation of interlinked European biomass and biowaste valorization value chains

Support market growth and demand for biobased products Drive forward the transition to a circular and sustainable biobased economy

Foster and promote a favorable regulatory environment of biobased solutions

Operational Objectives:

Increase TRLs of technologies to valorise biomass / biowaste

Develop new biobased building blocks

Set up new biorefineries

Improve collaboration between sectors

Reduce the risk for investors

Mobilize primary sectors and regions

Support the scale up of innovative SMEs

Ensure availability of bio-based building blocks

Improve awareness of high value use of biomass and biowaste Improve the security and reliability of sustainable feedstock

Foster regulation, labelling and standardization

CBE JU planned actions

The partnership supports sustainability-driven innovation for new local value-creation from European waste and biomass, driving sustainable, resource-efficient and climate-neutral solutions towards a healthier planet, replacing non-renewable fossil and mineral resources by biomass and waste for renewable products and nutrients.

The main activities will be financial support to research and technology development, via open calls for proposals

and procurement for studies.



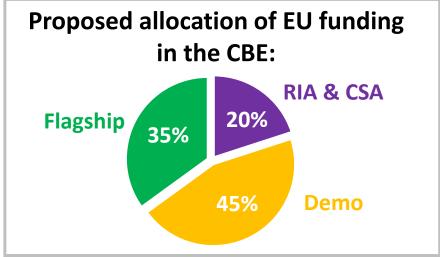
Funding rates: 100% in RIA & CSA, 60% for all industry participants in IA (demo and flagship)

Possible eligibility condition (for a significant number of IA topics):

the industry member(s) of the project consortium should be a **member of the BIC or of the CBE JU**.

This could be combined with:

1) a permanently open call for new JU members, without the need to be a BIC member, or 2) a 2-steps evaluation procedure where the membership (BIC or CBE) could be an eligibility criteria for the second evaluation.



Timeline



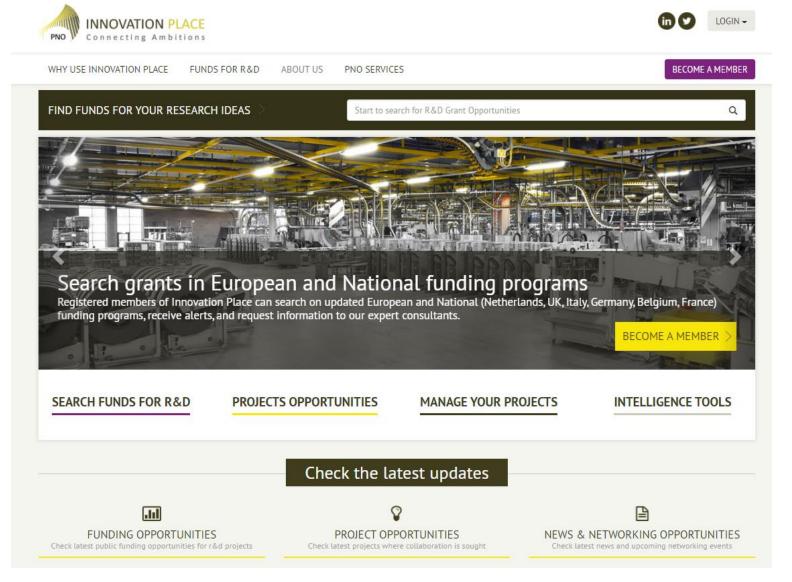
In the process towards a next draft of the SIRA2030, co-producing it with the EC.

Estimate: to have a draft for review by BIC and EC services by early November.

Once this is started, work on the AWP2021-2022 will continue.

A draft thereof will probably be shared for review with BIC Members by mid-December or early next year.

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THANKS FOR YOUR ATTENTION!

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