

# Call for partners

## Healthy & Sustainable Foods

Public-Private-Partnerships with Wageningen Food & Biobased Research (WFBR) for project ideas to start in 2026.

Each year, Wageningen Food and Biobased Research (WFBR) partners with Industry, research institutes, NGOs, and other stakeholders in Topsector Agri & Food consortium projects. In this document, the WFBR programmes in the food domain present their Public-Private-Partnership project ideas to start in 2026.



# Healthy & Sustainable Foods

## Project ideas for:

- Food Chains
- Food Product and Process
- Consumer and Health

The project ideas are still in their early stages, which has the advantage that they can be adjusted to the research needs of partners who would like to join the consortium. If you want to express your interest in joining any of the project consortia, please contact the relevant Programme Manager before the end of May 2025.

The submission deadline for the project proposals to the funding agency is 1 September 2025. The main general terms, conditions, and timeline for consortium projects can be found at the end of this document.

# Healthy & Sustainable Foods

WFBR not only has Public-Private-Partnerships for Healthy & Sustainable Foods, but also for Chemicals, Materials & Water:

- Nature Based Materials and Plastics
- Circular Water Technology
- Safe and Circular Biobased Products

A full overview of all WFBR project ideas are available at [www.wur.eu/call-for-partners](http://www.wur.eu/call-for-partners).

## Wageningen Food and Biobased Research

Together with our clients and partners, WFBR creates economically viable and sustainable solutions to contribute to supplying a rapidly growing world population with healthy, delicious, sustainably produced food and high-quality materials, chemicals, and fuels made from biomass. As a contract research organization, WFBR conducts applied and pre-competitive research for NGOs, governments and industrial partners. This work is conducted within bilateral projects and scientific grants, as well as Public-Private-Partnerships such as Topsector Agri & Food consortia.

# Sustainable Food Chains

## Project ideas:

1. Postharvest food loss prevention in a pesticide-free world
2. Advancing Food Safety and Sustainability through AI-Enhanced Agri-Food Certifications
3. PackItAll: Robotics for multi food product handling and packaging
4. PerfectScout: Mobile robots for quality in greenhouses and factories
5. IQ4DT: Initial Quality for Digital Twins
6. Food refrigeration in the future energy system
7. RECOMMENDS: pRedicting thE impaCt foOd iMproveMEnts oN household waStE

Please find below the project ideas for 2026.

Sustainable Food Chains is focused on supplying the world's increasing population with sustainable, safe and nutritious food that meets global dietary needs with limited energy use.

## Programme Manager:

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# Sustainable treatments for a pesticide-free world



## Idea #1

Sustainable Food Chains

Conventional production of fresh fruits & vegetables relies heavily on the use of synthetic pesticides. Growing concerns about health and environment will drive towards reduction and bans. Unless sustainable alternatives are developed and tested, the agrifood sector will face increased losses.

This project aims postharvest food loss by evaluating and enhancing sustainable treatments, boosting their readiness to tackle current and future pest challenges, creating effective, eco-friendly management, including viable postharvest treatments.

# Advancing agri-food supply chains through AI-supported certification



## Idea #2

Sustainable Food Chains

Food production is under strict certification schemes, not only for food safety but increasingly for sustainability. Companies struggle to comply, especially given the ever-increasing reporting demands they must fulfil simultaneously. Current audits are costly, time-consuming and often ineffective.

This project aims to harness AI-driven solutions to integrate predictive analytics, computer vision and automated compliance monitoring to improve accuracy, reduce manual audits and enhance transparency. It will contribute to safer and more sustainable supply chains while lowering certification costs.

# PackItAll: Robotics for multi food product handling and packaging



## Idea #3

Sustainable Food Chains

(Online) retail packaging of mixed products is very difficult to automate, while at the same time there is a significant lack of labour for such tasks.

Multiple companies are looking for the potential of robotics to provide solutions, but currently none exist in the market specialized for food materials.

This project aims to combine WFBR expertise in AI, Robotics and Food with market challenges is a multi-disciplinary setup, aimed at developing and prototyping PackItAll solutions.

# PerfectScout: Mobile robots for quality in greenhouses and factories



## Idea #4

Sustainable Food Chains

Autonomous mobile robots will become more and more common in food factories and greenhouse automation. Currently they are used mainly for logistics.

However, as a mobile platform they offer a great opportunity to also deploy sensors to measure the quality of products being transported.

This project aims to combine WFBR knowledge with industry practice and state of art to leverage robots for this purpose as PerfectScouts to measure quality.



# IQ4DT: Initial Quality for Digital Twins



## Idea #5

Sustainable Food Chains

Food losses in intercontinental fruit supply chains are estimated at around 35%. Most of these losses are preventable by a tighter grip on initial quality. Initial keeping quality can be viewed as harvest quality, quality-after-washing, and quality-after-precooling.

The project will develop new sensor technology and explore datamining technologies to extract information from available data. The aim is to provide accurate information on initial fruit quality as input for newly developed digital twins of postharvest fruit quality.

# Food refrigeration in the future energy system



## Idea #6

Sustainable Food Chains

Refrigeration plants use electricity, extract heat from cooled rooms/products, and generate residual heat. In most cases, that residual heat is not put to good use. The design of refrigeration plants is often customized, which makes plants unique, and therefore the optimal control is unique for every situation.

The aim of the project is to make refrigeration plants more sustainable by optimally integrating refrigeration into the energy system of the future, always looking for the optimal balance between temperature, energy efficiency, and availability/price of electricity. We will explore solutions both in the domain of plant design and process control.

# RECOMMENDS: pRedicting thE impaCt foOd iMproveMEnts oN household waSte



## Idea #7

Food Chains

Consumer household waste is substantial, both in terms of volume as well as environmental impact. Although consumer behaviour is complex, influencing it in a positive way, will have a significant impact. Quality preservation methods for food play a vital role in the reduction of food waste, but their impact on food waste reduction is hard to predict since quality perception is both subjective and dynamic.

Project RECOMMENDS aims to predict the impact of product quality preservation methods on subjective quality perception and household waste. Consumer perceptions of product quality, purchase/discard probabilities and the product journey from retail to household will be unraveled. By applying modeling techniques, household waste in different preservation scenarios will be studied

# Food Product and Process

## Project ideas:

8. SMART: SMARter Reformulation with Ai Techniques
9. ProBlend: Optimizing Protein Blends for Food Quality
10. PlantInS: Plant-based Ingredients from Sustainable sources
11. STAR: Sustainable healthy and functional sTARch
12. FermFinder: Accelerating fermentation Innovations
13. UNLOCKED: Unlocking potential of microbial biomass
14. Green-Cocoa: Sustainable cocoa alternatives via tailored fermentation
15. ROBioTS: Raman and Optical sensors for BioTechnological Screening
16. FRES°CO: FRozen Expertise for Sustainable COld processing
17. EFFORT: Efficient Food Processing for Optimal Resource and Technology
18. RHEOLINK: Rheology Measurements in Real-time
19. D-Risk: Data-Driven Food Safety Risk Management
20. FermGuard: Enhancing Food Safety in Fermented Products
21. SYNHANCE: Synergistic Preservation Strategies for Enhanced Shelf Life
22. SAFE-FROST: Solutions to improve safety of frozen ingredients
23. ContamiClean: Reducing Process Contaminants for Safer Food Products

Please find below the project ideas for 2026.

Food Product and Process is working towards net zero supply chains in which food resources are used optimally without losses and waste. It supports the transition towards sustainable food systems in NL, in Europe, and globally.

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# SMART: SMARter Reformulation with AI Techniques



## Idea #8

Food Product and Process

The demand for healthier (lower salt, sugar, and fat) and more sustainable (plant-based and sustainable ingredients) products, provides food manufacturers the challenge to develop healthy, sustainable, and cost-effective products while maintaining taste, texture, and consumer appeal.

Project SMART creates data-driven strategies by integrating food physics, flavour science, and sensory data to enable prediction of how ingredient and process changes will affect the final product. This approach allows SMART's partners to uncover hidden relationships between formulation choices and key control parameters and will enable faster, cost-effective reformulation with fewer trial-and-error iterations. The result: healthier, sustainable, great-tasting products.

# ProBlend: Optimizing Protein Blends for Food Quality



## Idea #9

Food Product and Process

Protein mixtures are essential in food applications, from meat analogues to dairy alternatives, impacting texture, taste, and functional properties. Traditionally, selecting these mixtures relies on trial and error.

ProBlend focuses on studying the interactions between combinations of proteins, examining how they work together or against each other in terms of their functional properties. By understanding these interactions, the project will create a toolbox for designing efficient protein blends that enhance food quality and consistency. This approach will enable the food industry to optimize protein blends, improving product performance, consistency, and overall quality.

# PlantInS: Plant-based Ingredients from Sustainable sources



## Idea #10

Food Product and Process

Plant-based side-streams represent an underutilized reservoir of protein- and fibre-rich functional ingredients. Concomitantly, plant-protein concentrates often lack the techno-functional properties of their animal counterparts.

This project explores targeted enzymatic modifications—guided by structure-function relationships—to enhance the functionality of these side-streams and concentrates. AI-driven approaches will optimize enzyme selection and treatment conditions. Advanced downstream processing will be employed to mitigate off-flavours and improve sensory quality.

The outcome will be a robust technological platform for developing next-generation plant-based ingredients with superior functionality and application potential.



# STAR: Sustainable healthy and functional sTARch



## Idea #11

Food Product and Process

Starch is a key ingredient in many food products, enhancing texture and mouthfeel. However, conventional starches often have a high glycemic index and low fibre content, while existing dietary starches offer limited functionality and are produced through energy-intensive processes that generate unwanted by-products.

The STAR project aims to explore enzymatic modification as a sustainable solution to enhance the functionality of dietary starches for food applications. We are seeking partners with starch-rich side streams interested in increasing their value, as well as companies looking for sustainable alternative sources of functional and dietary starch for their products.



# FermFinder: Accelerating fermentation Innovations



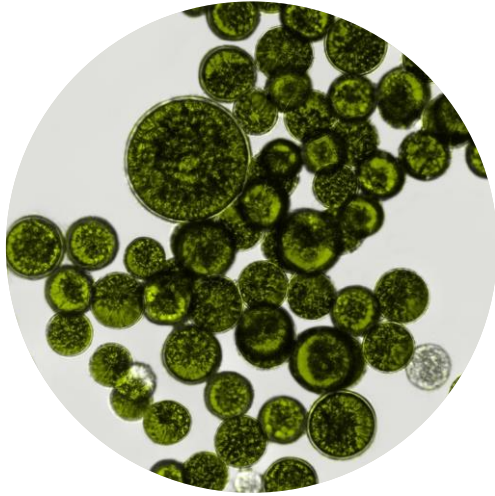
## Idea #12

Food Product and Process

Fermentation enhances taste, nutrition, and health benefits, making it vital for the food industry. It enables cleaner-label products by producing desirable flavors, essential nutrients, and bioactive compounds without additives. The challenge is identifying food-grade microorganisms that reliably drive these improvements.

FermFinder will develop an **in-silico screening platform** to identify promising microbes for fermentation based on genetic data. High-throughput cultivations will validate their ability to produce target compounds. The tool will assess which microbes can produce the desired compound, under which conditions, and their food applications and regulations, speeding up discovery and optimization of fermentation processes.

# UNLOCKED: Unlocking potential of microbial biomass for nutritious food products



## Idea #13

Food Product and Process

Microbial biomass is a promising sustainable protein source rich in macro and micronutrients. The key challenge is understanding its techno-functional properties for food applications. This project aims to identify factors that affect product quality and digestibility in formulations with microbial biomass.

UNLOCKED will explore how fermentation conditions and food matrix interactions influence digestibility in products containing fungal, bacterial, microalgal, and yeast biomasses. By collaborating across the entire value chain from biomass selection to fermentation, post-processing, and human consumption, this research will advance next-generation protein solutions, creating sustainable and nutritious food products for the future.

# Green-Cocoa: Sustainable cocoa alternatives via tailored fermentation



## Idea #14

Food Product and Process

Interest in sustainable cocoa alternatives has been rising due to high cocoa prices and growing concerns over health and social issues. Traditionally, carob pods have been used as a direct substitute in chocolate alternatives, but the Green-Cocoa project aims to go beyond this. By leveraging tailored fermentation powered by our FLAVOUR-AI platform, we aim to bring the flavor of carob closer to that of cocoa.

Green-Cocoa also include a techno-economic evaluation to ensure cost-effectiveness, while developing a chocolate prototype that meets both taste and health standards. The ultimate goal of Green Cocoa is to create a healthy, sustainable, and affordable chocolate alternative.

# ROBioTS: Raman and Optical sensors for BioTechnological Screening



## Idea #15

Food Product and Process

Raman spectroscopy has significant potential for real-time monitoring and control of bioreactor-scale fermentations. While projects like FEVIS demonstrate its benefits, current high-throughput analysis still relies on labor-intensive offline methods like HPLC, GC-MS, and enzymatic assays to quantify sugars, acids, and proteins.

ROBioTS aims to miniaturize Raman technology for high-throughput screening, improving fermentation optimization. Successful deployment of Raman-based technologies will improve process development, cost-efficiency, and a first-time-right approach. Integrating Raman spectroscopy into accessible tools will enhance efficiency, scalability, and innovation in industrial, microbial, and precision fermentation.

# FRES°CO: FRozen Expertise for Sustainable COld processing



## Idea #16

Food Product and Process

The potato and vegetables sector in Europe produces over 300 Mtonnes of fresh frozen products yearly. Freezing strongly enhances product shelf-life but can compromise the product quality and consumes large amounts of energy.

FRES°CO aims to better understand the relationship between the freezing process settings and product properties to improve the quality of frozen vegetables and potatoes. At the same time, it provides an opportunity to reduce energy consumption during freezing. An integrated approach from raw material to frozen product will be taken, using emerging sensor technologies to build microstructure quality models for frozen products. This enables potato and vegetable processors to have better control over the quality of their frozen products.

# EFFORT: Efficient Food Processing for Optimal Resource and Technology



## Idea #17

Food Product and Process

Efficient energy and water use are crucial for sustainable food production. With growing resource challenges, companies need insights into balancing product quality, processing costs, and resource efficiency. As water and energy needs are often interconnected, innovative technologies such as heat pumps for optimized heating and cooling offer significant opportunities to reduce costs and enhance profitability.

EFFORT identifies and develops solutions for reducing energy and water consumption, supported by a decision tool that evaluates savings potential while maintaining product quality, safety, and shelf life. The tool offers industry insights, and selected technologies will be assessed for real-world impact.



# RHEOLINK: Rheology Measurements in Real-time



## Idea #18

Food Product and Process

Current food rheology measurements are performed offline with traditional oscillatory rheometers, which are time-consuming and unsuitable for real-time process control, leading to food waste and batch rejection.

The RHEOLINK project aims to develop an optical probe to measure the visco-elastic properties of foods in real-time. The project will explore the relationship between optical scattering intensity and rheological properties, leveraging AI and data science to predict these properties from speckle patterns.

RHEOLINK will improve process control, reduce waste, and boost food production efficiency with real-time measurements.

# D-Risk: Data-Driven Food Safety Risk Management



## Idea #19

Food Product and Process

Food manufacturers must have a food safety plan to protect consumer health, requiring knowledge of potential hazards and effective control measures.

The D-Risk project enhances WUR's web-based decision tool for assessing food safety hazards. The upgraded version will be tailored to partners' process chains and enable more quantitative hazard assessments, incorporating contamination levels from microbial and chemical hazards. It will also suggest minimal safety conditions and consider the impact of geographical origin.

This improved tool will help food producers evaluate and manage food safety risks more precisely and effectively, using data-driven insights.



# FermGuard: Enhancing Food Safety in Fermented Products



## Idea #20

Food Product and Process

The rise of fermented (plant-based) products presents new food safety challenges. These processes involve less standardized ingredients, higher microbial contaminants, and varying acidification patterns, complicating safety control.

FermGuard brings together food safety and fermentation experts with high-throughput data generation techniques. The project focuses on developing predictive growth models to assess fermentation performance, inhibit foodborne pathogens, and analyze microbial interactions. By providing science-based guidelines, FermGuard will help the (plant-based) food industry optimize fermentation conditions while minimizing food safety risks, ensuring safe, high-quality products for consumers.

# SYNHANCE: Synergistic Preservation Strategies for Enhanced Shelf Life



## Idea #21

Food Product and Process

The new Packaging and Packaging Waste Regulation (PPWR) and the drive to reduce preservatives challenge food shelf life. SYNHANCE leverages synergies between natural food ingredients and packaging solutions to optimize preservation.

Using Scientific Machine Learning (SciML), SYNHANCE develops predictive tools that assess storage conditions, packaging properties, off-flavor development, and physico-chemical degradation. These insights help food producers extend shelf life naturally while meeting regulatory and consumer demands.

SYNHANCE offers partners cutting-edge technology to create cleaner-label products with improved stability and quality.

# SAFE-FROST: Technological solutions to improve safety of frozen ingredients



## Idea #22

Food Product and Process

Freezing is an effective method to prevent microbial growth and extend the shelf life of commonly used ingredients such as fruits, vegetables, and herbs. However, microbial contaminants like bacteria, viruses, and parasites can be introduced prior to freezing and may survive frozen storage. Once thawed and consumed, these contaminants pose safety risks to food products.

The SAFE-FROST project aims to develop validated strategies for efficiently reducing microbial contaminants and viruses in frozen ingredients without compromising product quality. The project will focus on identifying the optimal process conditions by combining existing technologies and exploring novel solutions to ensure food safety in frozen products.

# ContamiClean: Reducing Process Contaminants for Safer Food Products



## Idea #23

Food Product and Process

The formation of harmful process contaminants, such as acrylamide, during food processing poses significant health risks, particularly in products like vegetable snacks. As regulations around these contaminants expand, reducing their levels has become a critical challenge.

ContamiClean addresses this issue by building a deeper understanding of contaminant formation and developing strategies to monitor, prevent, and remove them. Key strategies include optimizing recipes, adjusting processing conditions, reducing precursors, and implementing fast measurement techniques to detect high contaminant levels. This project aims to ensure safer, healthier food products while meeting increasingly strict regulatory requirements.

# Consumer and Health

## Project ideas:

- 24. PLANT4DINNER: towards effective strategies to drive sustainable dietary habits of consumers
- 25. G-FORCE: GLP-1 and Food-Origin Regulators and Appetite Control Effects
- 26. EMULSIFY: Impact of emulsifiers on gut health, microbiome & cardiometabolic health
- 27. REFORM: A new perspective on the processed food debate
- 28. NutriBite: The health-supporting potential of personalized food technology

Please find below the project ideas for 2026.

Consumer and Health is focused on improving nutrition in every life stage to promote optimal health and prevent nutrition-related diseases for a healthy and sustainable society.

## Programme Manager:

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# PLANT4DINNER: towards effective strategies to drive sustainable dietary habits of consumers



## Idea #24

Consumer and Health

To foster healthy people and a healthy planet, a transition is needed towards more sustainable consumer diets. Replacing animal protein with plant protein is impactful, but a challenge for consumers as it impacts the familiar flavour and texture profiles they are accustomed to. How can consumers get used to these changes and become more inclined to consistently re-purchase sustainable plant-based products in their transition to a plant-base diet?

The project PLANT4DINNER will focus on the interplay between sensory experiences, long-term liking and habit formation. By developing innovative, effective strategies, this project aims to facilitate consumers' transition towards healthy plant-forward diets.

# G-FORCE: GLP-1 and Food-Origin Regulators and Appetite Control Effects



## Idea #25

Consumer and Health

The rise of pharmacological GLP-1 agonists (like Ozempic) is transforming obesity treatment, but what does this mean for the food industry?

Our project explores natural dietary strategies to enhance GLP-1 release, identifying bioactive ingredients (e.g. fibers, stevia) and their mechanisms. In G-FORCE we investigate whether GLP-1 activation alters the desire to eat of specific food groups and quantify the GLP-1 potential of foods to develop plant-based dietary solutions to support metabolic health.

By combining expertise in nutrition and metabolism, we help shape the future of food formulations, offering innovative, science-based alternatives for metabolic health beyond pharmaceuticals.



# EMULSIFY: Impact of emulsifiers on gut health, microbiome & cardiometabolic health



## Idea #26

Consumer and Health

Emulsifiers enhance texture, stability, and shelf life in food. Recent studies, however, suggest potential health risks, including associations with cardiometabolic disease, possibly mediated by gut microbiota changes. While regulatory bodies deem emulsifiers as safe, concerns persist, particularly in the ultra-processed foods debate. The precise implications remain unclear, highlighting the need to unravel this in more detail.

Project EMULSIFY investigates the health effects of emulsifiers in a realistic dietary setting and optimizes their use for health, consumer acceptance, product quality, taste, and functionality. With Wageningen's unique expertise, we take a comprehensive approach to uncovering the potential impact of emulsifiers, which are used in food industry, on health.



# REFORM: A new perspective on the processed food debate



## Idea #27

Consumer and Health

The debate around processed foods lacks adequate scientific substantiation. Project REFORM takes a comprehensive, data-driven approach to understand the (metabolic) health impact of including reformulated processed foods in the modern Dutch diet.

The project will 1) perform a controlled 'whole diet RCT' that will compare the impact of replacing conventional commonly consumed foods, with commercially available reformulated (healthier) versions of the same foods (i.e. lower in kcals, salt, sugar, and fat), 2) re-analyze the quality of the dietary epidemiological evidence diet to assess associations between UPF's and health effects more accurately, 3) explore consumer perceptions and attitudes towards reformulated processed foods to inform better decision making in the future.

# NutriBite: The health-supporting potential of personalised technology & food



## Idea #28

Consumer and Health

With the earlier developed and tested flexible food manufacturing platform (smart mini food factory) it is possible to produce fully personalised food products, based on personalised nutrition advises. Macronutrients, micronutrients, fibres, product size, texture and flavours can be tuned to meet personal needs and preferences. This technology and infrastructure allow us to perform intervention studies to study the health-supporting potential of Personalised Foods for specific consumers or patients.

The NutriBite intervention study will combine the [Fiber-UP](#) and the Protein [Alpha Tool](#) with smart personalised food manufacturing to provide micronutrient-, protein- and fibre-optimized (plant-based) specialized nutrition for e.g. elderly consumers and athletes to support health.

# Public-Private-Partnerships in general

## **Subsidy conditions**

- The above-described projects are being developed for application to the TKI subsidy, a Dutch governmental program sponsoring applied research. Each project requires at least one Dutch company partner, but additional partners from abroad are welcome to join.
- Granted projects receive 50% subsidy funding. The other 50% is contributed by industry partners, of which up to half (25% of total) may be in-kind.
- TKI projects typically have a running time between 2 and 4 years.

# Public-Private-Partnerships in general

## **Expected contribution**

- Total project budgets are typically between 0.8 and 2.0 M€.
- Participation costs per partner range from 20-50 k€ cash per year, with exceptions for small and medium enterprises (SME).
- Partners also contribute in-kind through participation in project meetings, contribution of materials, and/or performance of own experimental work.

# Public-Private-Partnerships in general

## Timelines

- 1 April 2025 the TKI call was published. The full call text is available [online](#).
- Partners are kindly requested to express their interest in joining proposals prior to 1 June 2025, at which time a selection will be made of proposals with sufficient support to continue.
- The deadline for full proposal submissions is 1 September 2025. At this time partner commitment must be firm.
- Early November 2025, consortia are notified if they have received the subsidy grant. Upon notification, the contracting phase starts.
- Projects kick-off as soon as contracting is completed (deadline: 1 April 2026).

# Public-Private-Partnerships in general

## Contracting terms

The IP terms for a PPS consortium are governed by European state aid regulation. As specified on the TKI site, the consortium agreement template is mandatory and IP terms will not be modified. Parties engaging are advised to check the terms well in advance. For your convenience, the main concepts are summarized below:

- Foreground developed in the project accrues to the inventing party, most frequently the executing knowledge institute(s).
- Industry partners co-financing the consortium receive the right to apply non-protected Foreground directly and the first right to license any resulting protected Foreground (IP) for their field of use.
- Projects receiving subsidy are obliged to publish part of the results. A project steering committee with one representative per partner governs publication of project results.

# We look forward to collaborating!

For more information on any of these initiatives,  
please contact the relevant Programme Manager

or have a look at our website:

[www.wur.eu/call-for-partners](http://www.wur.eu/call-for-partners)

For general questions,

please contact Business Development Support:

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