



WELCOME to the

POLICY ROUND TABLE

***Unlocking the potential of alternative proteins in the EU:
Diversification, environmental performance and competitiveness***

Wednesday, 17th May 2023 / 10:00 – 13:00 CEST

Online

*With participation of representatives from DG AGRI, DG SANTE, DG GROW, DG RTD, REA, EFSA and
HORIZON4PROTEINS*



AGENDA POLICY ROUND TABLE

Unlocking the potential of alternative proteins in the EU:

Diversification, environmental performance and competitiveness

Wednesday, 17th May 2023 / 10:00 – 13:00 CEST ; Online

10:00–10:40 Introduction and opening session

Welcome

Paul Webb (REA)

Introduction

Marie Shrestha (NextGenProteins)

Tour de Table

Presentation of the EU policy scene

Presentation of the Horizon4Proteins projects

10:40-12:45 Policy implications of Horizon4Proteins work and beyond, framing the discussion

10:40-11:20 Plenary discussion: Protein diversification

Chair: Jacqueline Lyons (smart protein)

11:20-11:25 *Coffee break*

11:25-12:05 Plenary discussion: Policy support

Chair: Ine Fels-Klerx (SUSINCHAIN)

12:05-12:45 Plenary discussion: Economic development

Chair: Fabio Fanari (ProFuture)

12:45-13:00 Closing remarks and next steps

Closing remarks

Paul Vos (Giant leaps), Morena Silvestrini (Like-a-Pro)

Next steps

Amanda Ozin-Hofsmaess (REA), Cindy Schoumacher (DG-RTD)

Result of the audience poll





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Unlocking the potential of alternative proteins in the EU:
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17.05.2023

Introduction

Marie Shrestha (NextGenProteins)



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HORIZON4PROTEINS



What is Horizon4Proteins?

#Horizon4Proteins

Collaboration of 4 projects receiving funding from the European Union's Horizon 2020 research and innovation programme

[LC-SFS-17-2019 - Alternative proteins for food and feed](#)



grant agreement No 862704



grant agreement No 862980



grant agreement No 862957



grant agreement No 861976



and 2 projects receiving funding from the European Union's Horizon Europe research and innovation programme

[HORIZON-CL6-2021-FARM2FORK-01-12 - Filling knowledge gaps on the nutritional, safety, allergenicity and environmental assessment of alternative proteins and dietary shift](#)



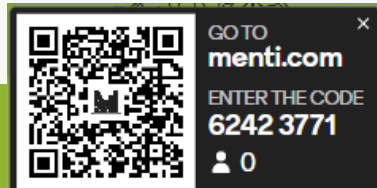
grant agreement No 101059632

[HORIZON-CL6-2022-FARM2FORK-01-07 - Building alternative protein-friendly sustainable and healthy food environments](#)



grant agreement No 101083961

➤ Total of 198 participants



Special session at scientific conference



Webinars

1x in 2021
3x in 2022
2-3 in 2023

Project final conferences

07-08.09.2023 NextGenProteins
13-14.09.2023 ProFuture
27.09.2023 Susinchain

Special session at climate conference



Policy Round table

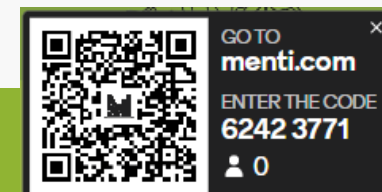
May 2023
September 2023

Social media campaign

#Horizon4Proteins

Policy brief

May 2023





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Horizon4Proteins Policy brief

Solutions towards a more resilient food system

- Alternative proteins as an effective mitigation and adaptation strategy
- Build on existing policy and regulatory tools:
 - Labelling and marketing standards
 - Public food procurement
 - Equal tax system
 - Data protection
 - Subsidies



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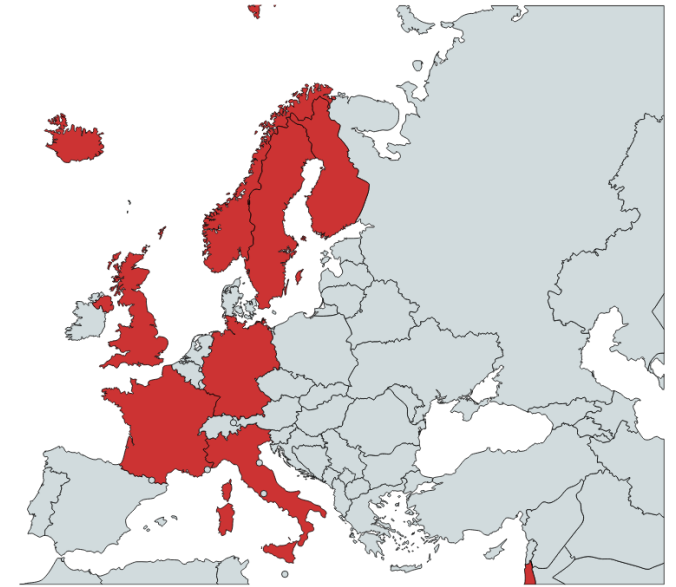
Unlocking the potential of alternative proteins in the EU:
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Presentation of the Horizon4Proteins projects: NextGenProteins

Sveinn Agnarsson



NEXTGEN PROTEINS



Sveinn Agnarsson, Sjókovin



The Protein Challenge

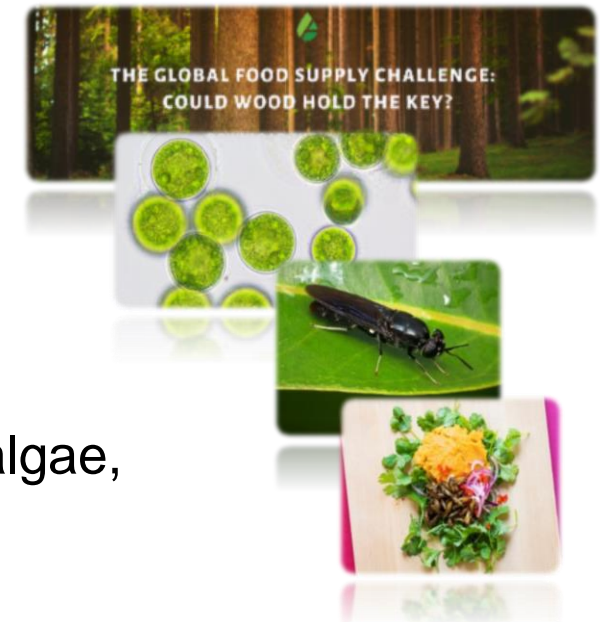
- Access to high quality, sustainably produced proteins is becoming increasingly restricted
 - Growing world population
 - Increased pressure on natural resources
 - Climate change
- Global protein demand has never been higher
- EU is not self-sufficient when it comes to protein production
- Current protein production needs to double by 2050

Objective of NextGenProteins

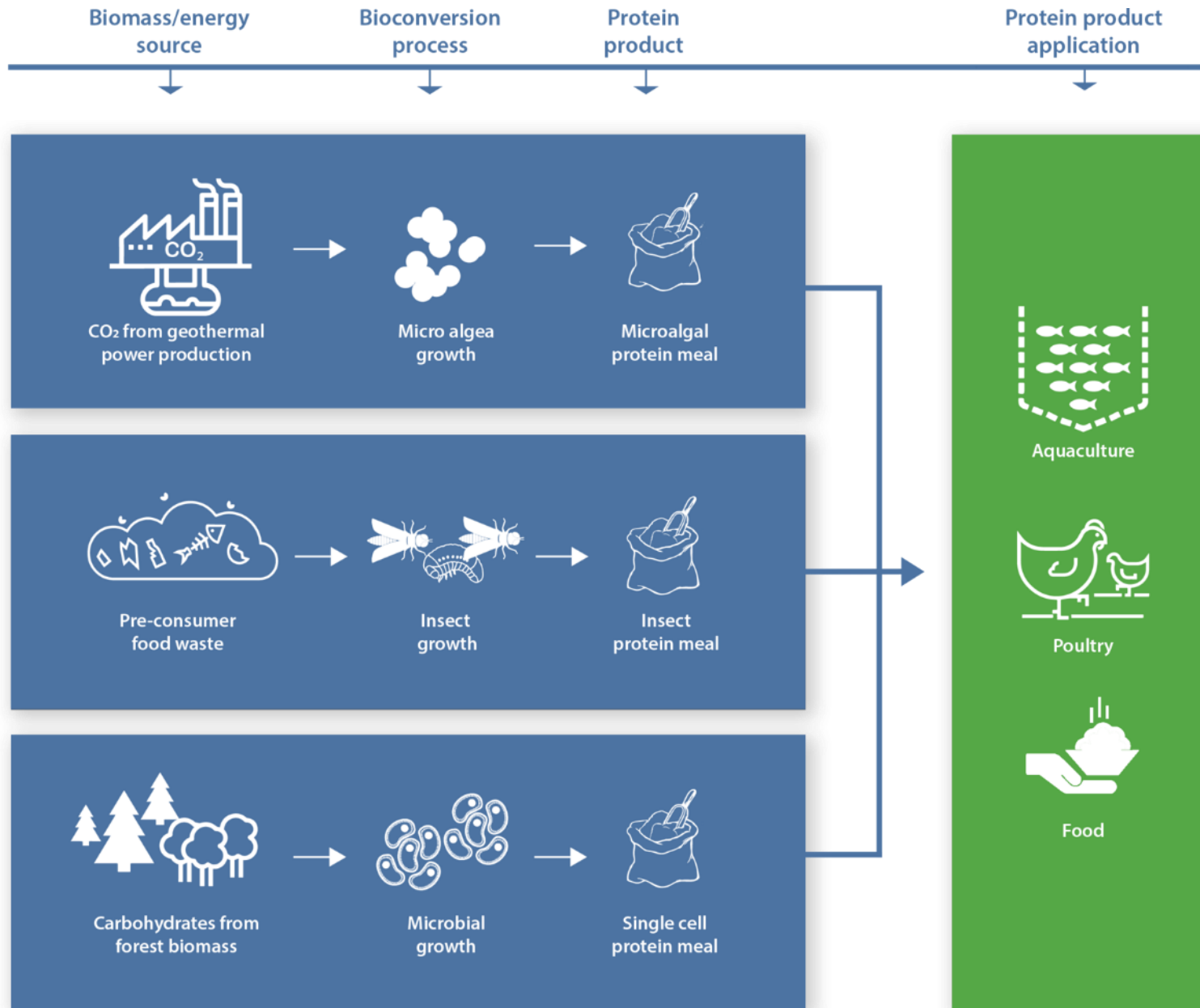
- Demonstrate suitability & economic viability of new proteins – microalgae, insects, single cell – in an industrial environment
- Replace or complement more traditional protein sources
- Strengthen food security, sustainability and self-sufficiency of EU protein production

NEXTGEN
PROTEINS

Bioconversion of Underutilized Resources
into Next Generation Proteins for Food and Feed



Concept



salmon



seabream



chicken



turkey



ready meals



bakery products



imitation meat



functional food supplements



Main results

- Production and optimization; 12 tons of proteins produced, scale-up in SMEs
- Application in food products; products developed, tests (storage, consumers) ongoing
- Application in feed;
 - Broiler & turkey: Dose-response tests (6-18% inclusion rate)
 - Salmon & seabream: Dose response & field trial (5-15% inclusion rate)
- Market opportunities and business potential
 - Consumer surveys (6600 consumers in FI, DE, IS, IT, PL, SE, UK)
 - Positive and open, but some don't really know what to think
 - Challenging to get consumers to accept protein ingredients from insects, e.g. crickets
 - Accept, provided taste is similar and they can trust that they are not being misled
 - Expectations of positive consequences for sustainability, animal, and human health
- Sustainability assessment
 - 79-99% lower carbon footprint, more with circularity,
 - Major risks: unable to attract funding & consumer willingness to try



Challenges / Key messages for policy makers

- Regulation in EU and other countries; consequences for innovation and competitiveness
- Shorter time for approval of novel food applications to support innovation
 - More resources for EFSA
 - More research funding (evidence based safety assessment)
- Changing approach from “bottom-up” to “top-down”
- EU R&D support for innovation projects, and not just early-phases
- Diversification of commercial-scale alternative proteins
- Integrate management perspectives across policy-areas to harness the benefits of alternative proteins
- Technical and financial assistance from existing EU instruments (cohesion funds, EAFRD, CAP)
- Boost consumer acceptance (inform and educate); joint ventures – industry, EU, retail



Do you have questions to the NextGenProteins team?



Sveinn Agnarsson
sveinnag@hi.is



SAVE THE DATE

NEXT GENERATION PROTEIN CONFERENCE

Exploring the potential of new protein sources for food and feed
Bremerhaven (Germany) , 7 - 8 September 2023

Exploring the potential of new protein sources for food and feed

NextGenProteins Conference takes place in Bremerhaven (Germany) in 2023. Get in touch with European experts in the field of protein technology for food and feed. Learn about latest scientific achievements. Be part of a full two-day event with excellence talks and take the opportunity of networking in a tourist destination.

For additional information and regular updates please check our website:

<https://www.nextgenproteins.eu>

NEXTGEN
PROTEINS





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Presentation of the Horizon4Proteins projects: ProFuture

Massimo Castellari





www.pro-future.eu



POLICY ROUND TABLE

17th May 2023

Microalgae Protein Ingredients for the Food and Feed of the Future

Massimo Castellari, Ph.D. – Project Coordinator
IRTA - institute of Agrifood Research and Technology
Girona-Spain

ProFuture

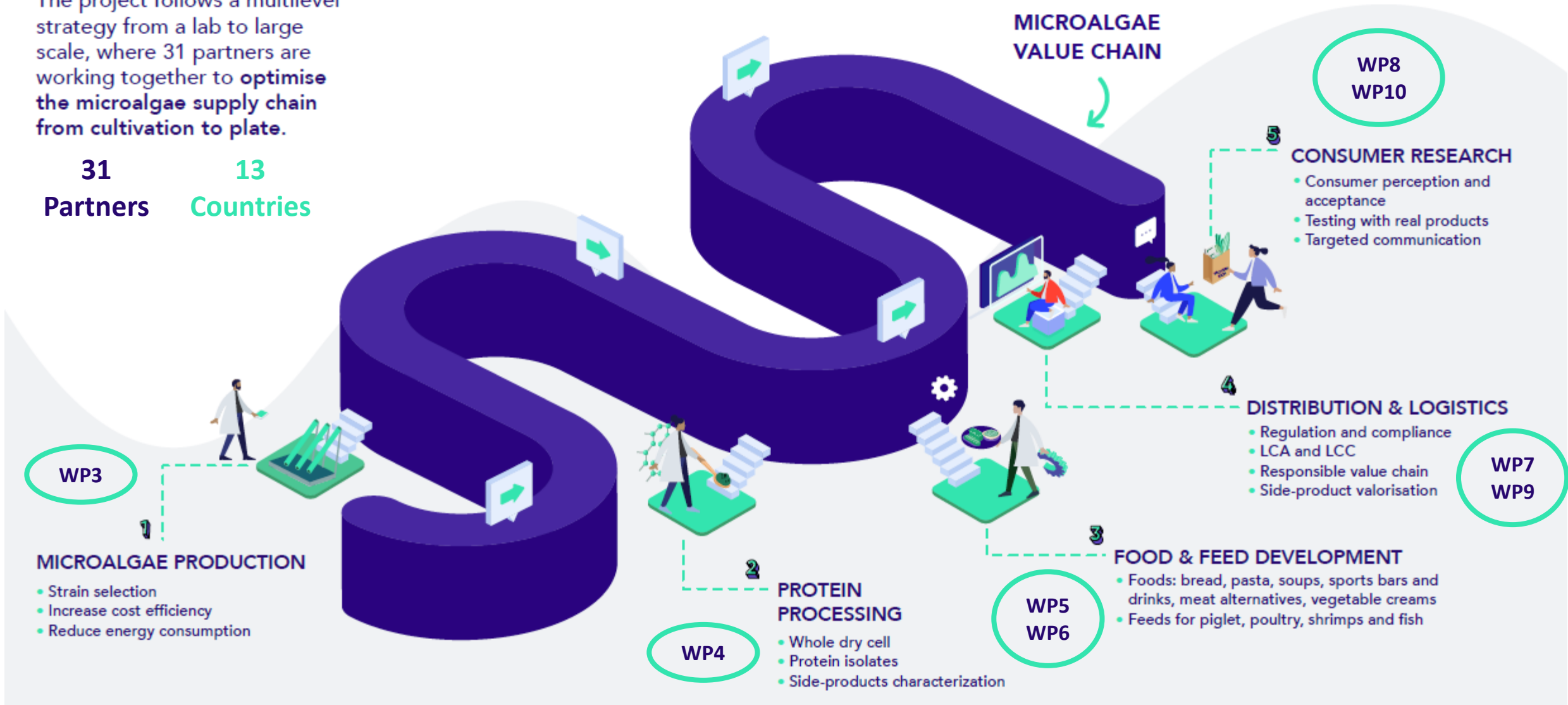
Microalgae Protein
Ingredients for the Food
and Feed of the Future



ProFuture at a glance

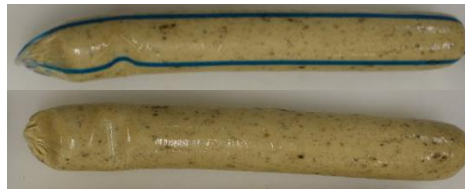
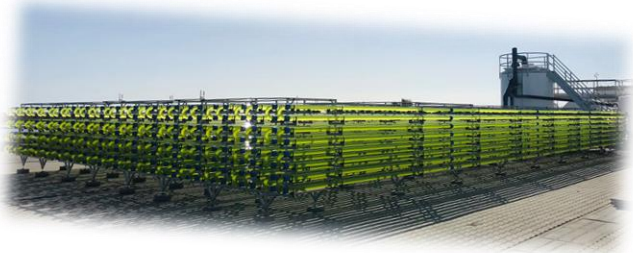
The project follows a multilevel strategy from a lab to large scale, where 31 partners are working together to **optimise the microalgae supply chain from cultivation to plate.**

31
Partners **13**
Countries



Achievements and Challenges

- ✓ Innovative, more efficient and sustainable technologies for microalgae cultivation and single-cell ingredients production have been implemented (+ LCA/LCC studies)
- ✓ New *Chlorella vulgaris* strains (yellow-pale green) made available in the market as food ingredients
- ✓ Foods reformulated with microalgae ingredients were produced at industrial scale and tested with consumer
- ✓ New feed formulations including microalgae were developed and tested considering effects on animal health and meat quality
- ! Integration in foods is challenging (low solubility, big impact on organoleptic properties)
- ! Extraction and isolation of proteins low yields and high costs



Policy issues



Organic certification

- Loss of organic certification for *Chlorella* because of the use of CO₂ to grow the algae autotrophically (Reg. 2018/848).
- Cultivation of microalgae for organic certification is mainly regulated following the protocols in force for agricultural crops and this is not always reasonable.

Authorization as novel food

- Financial aid for SME and clusters to prepare/submit dossiers for authorization of new species,
- “Open authorization” when basic information comes from studies funded with public resources
- The novel food regulation gives the applicant exclusive rights during 5 years for microalgae species not consumed as food in Europe before 1997. Anyway, if microalgae could be considered plants, this would be in contrast with the requirements on the legal protection of biotechnological inventions and property rights for plant varieties (Dir. 98/44/EC and Reg. 2100/94).

Animal by-products upcycling

(e.g. from fisheries) interesting for microalgae cultivation but not authorized by the present legislation





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17.05.2023

Presentation of the Horizon4Proteins projects: Smart Protein

Emanuele Zannini



What is the Smart Protein Project?

One of the most **innovative** plant-based projects

A collaboration of **32 partners** from more than **20 countries**

4 years in duration (2020-2024)

An **EU-funded research project** (Horizon 2020) with a €9+ million budget

Objective: *innovative, cost-effective, and resource-efficient EU-produced plant proteins from:*

Chickpeas, lentils, quinoa, & fava beans

Innovative protein products from plants



Yeast and fungi

New protein ingredients



Byproducts from pasta, bread, & beer

A circular economy will be created by upcycling side streams



How are the Smart Protein partners?



- A Ireland
- B Portugal
- C Spain
- D Belgium
- E Netherlands
- F Denmark
- G Germany
- H Austria
- I Switzerland
- J Italy
- K Israel
- L New Zealand
- M Thailand
- N USA

9 EU Member States

Ireland	Portugal	Spain	Belgium	Netherlands	Denmark	Germany	Austria	Italy

2 Associated Countries

Israel	Switzerland

3 International Partners

Thailand	New Zealand	USA

Smart Protein project - strategy

WP4 – Food nutrition and health



Objectives: Optimisation of the nutritional and biological profile of the Smart Protein food ingredients/foods/beverages plant based products prototyped via human intervention studies.

Key players: Food and beverage industries

WP3 – Food processing



Objectives: Protein-protein interaction, protein functionality, development of food ingredients/foods/beverages plant based products.

Formulate protein combinations for partial or full substitution of protein sources traditional utilised. Industrial validation and demonstration of developed food and beverage prototypes.

Key players: Food and beverage industries

WP2 – Plant protein processing and side stream up-cycling



Objectives: Protein extraction validation at the industrial environment, up-cycling side-stream products generates from Smart Protein partners, mycelium, mushroom protein production.

Key players: Food and beverage ingredients companies

WP1 – Protein crop, soil and water management



Objectives: Water management, soil fertility protection, protein crops validation and production strengthening.

Key players: Farmers, farmers support associations, plant breeders

WP5 – Exploitation & business development



Objectives: Assessment of the commercial feasibility and safety of protein channels through its live interaction among the WP1-WP4 – Business case-development

Key players: Farmers/Industries/Food retailers, consumers/support, associations

WP6 – Consumer studies



Objectives: Development and implementation of plant-based food and beverage prototypes to enhance consumer's acceptance, consumer readiness, network and promoting activities.

Key players: Food retailers, consumers/support associations

WP7 – Dissemination and communication



Objectives: Disseminate, exploit and communicate the results of the Smart Protein project within and outside the consortium to the public and relevant professional sectors such as food industry, manufacturing and production, food and regulatory authorities.

Key players: Farmers/Industries/Food retailers, consumers/support, associations, policy makers

WP8 – Sustainability Assessment



Objectives: Environmental impact profiles of protein food covering the whole protein food supply chain (from cradle to grave).

Key players: Farmers/Industries/Food retailers, consumers/support, associations, policy makers

WP9 – Project management and coordination



Objectives: Overall management of the project, establishment of an effective communication infrastructure and foster the integrative process within the consortium, ensure consortium's performance.

Smart Protein food prototypes



Fish and seafood



Pastry



Cheese



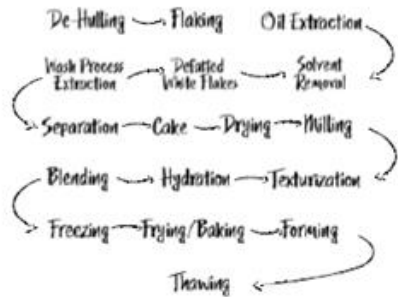
Meat



Infant formula



Other dairy products



TASTE

Clean and neutral taste that can be further developed and improved by biotransformation, recipe and cooking



TEXTURE

Sensoriality, Processability, Functionality in range of applications



APPEARANCE

Light colour or neutral colour that can be developed and improved by cooking



AFFORDABILITY

Provide amino acid needs, with low-cost raw materials to vulnerable communities

NATURAL

Simpler, fewer processing steps that release nutrients. Biotransformation to improve quality and eliminate antinutritional factors



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Presentation of the Horizon4Proteins projects: SUSINCHAIN

Teun Veldkamp





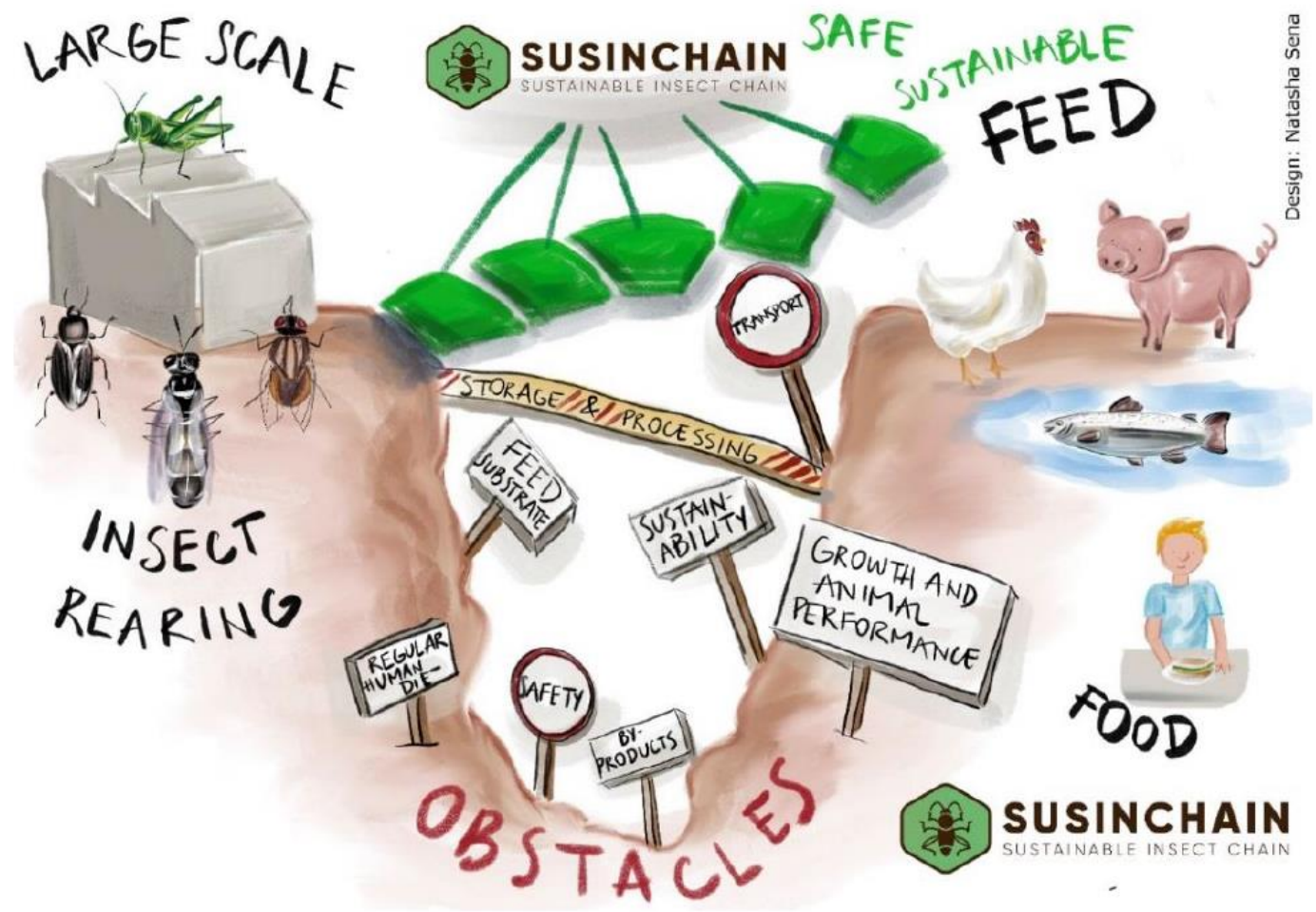
SUSINCHAIN

SUSTAINABLE INSECT CHAIN




This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 861976. This document reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.

SUSINCHAIN challenges to fill the demand-supply gap



Challenges to be addressed to fill the gap between insect protein demand and supply



Overall aim: The overall aim of SUSINCHAIN is to test, pilot and demonstrate recently developed innovations, including techniques, products and processes, realising a shift up to Technology Readiness Level 6, and enabling full maturation and commercialisation of the European insect value chain.

- WP1 business, market and experiences
- WP2 insect rearing and transport
- WP3 processing
- WP4 insects as feed
- WP5 insects as food
- WP6 safety
- WP7 sustainability
- WP8 communication

Final symposium

- September 27, 2023
- Omnia Wageningen, The Netherlands
- Presenting the outcome of the SUSINCHAIN project during the morning session and focusing on policy making in the afternoon session
- Kindly request to DGs to present their view on the development of a sustainable insect chain in Europe. So far, no confirmations on invitations sent.
- Program will be finalized in May and advertised in June





SUSINCHAIN
SUSTAINABLE INSECT CHAIN



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Presentation of the Horizon4Proteins projects: GIANT LEAPS

Paul Vos





**GIANT
LEAPS**

Gap resolution in sAfeTy, NuTriTional, aLlergenicity and EnviRonmental assessments to promote Alternative Protein utilization and the dietary Shift

Coordination: Paul Vos, Wageningen Research



Funded by
the European Union



GIANT LEAPS: approach & goal

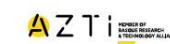
- 1 September 2022 – 31 August 2026
- Research and Innovation Action
- EU / total budget: € 10.3 / 11.9 million
- 35 partners

Approach

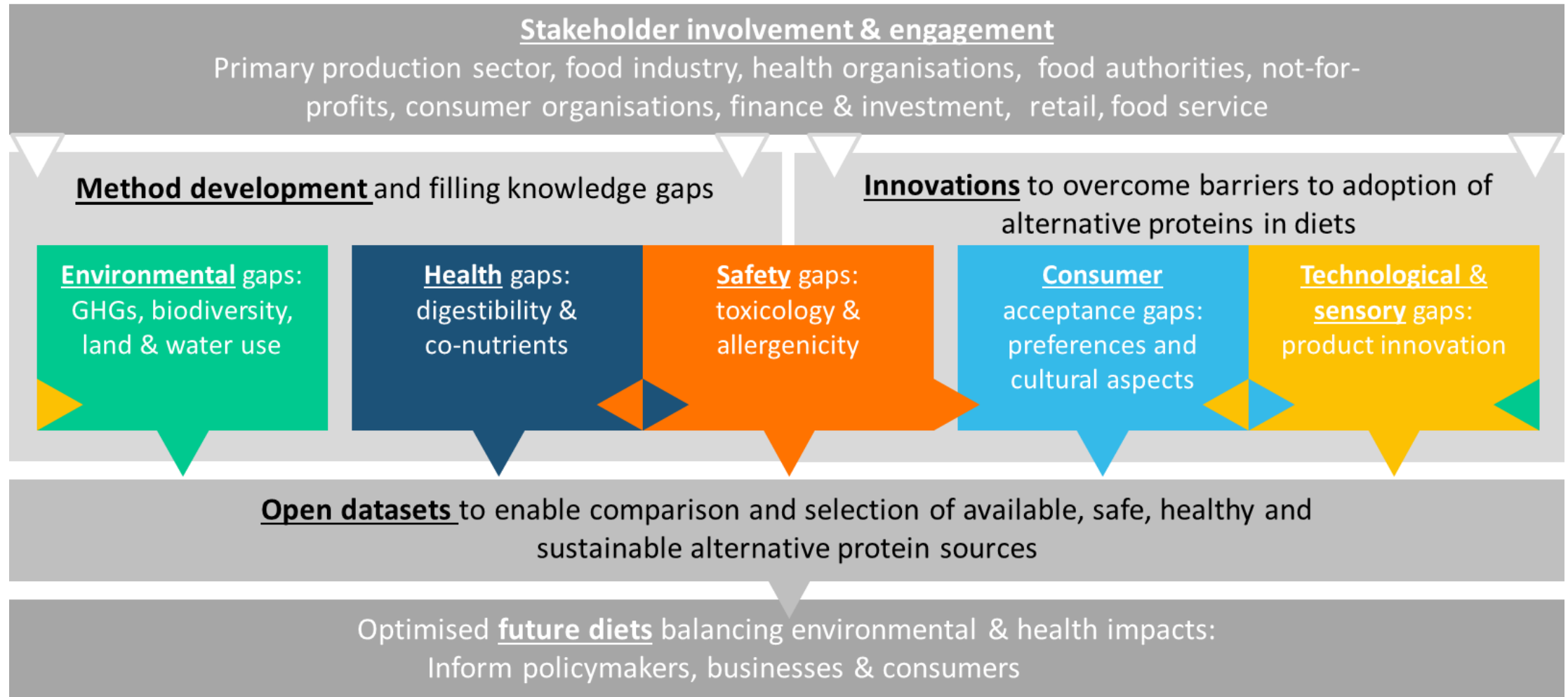
- Strategically fill knowledge gaps across relevant domains:
 - Scattered and incomplete datasets
 - New methodologies to address crucial issues
 - Innovations to overcome technological, sensory and other limitations

Goal

- Enable an integrated assessment of alternative protein sources, drive innovation and optimise the sustainability, safety and healthiness of future diets



GIANT LEAPS concept: integrated approach towards future diets



GIANT LEAPS expected results and policy-related outcomes



- Integrated framework to evaluate protein sources & enable the dietary shift
 - Innovative prototypes to unlock alternative protein potential
 - Predictive methodologies for safety & health parameters
 - Datasets & open cloud platform for data integration, analysis & comparison
 - Models to estimate and optimize impact of future diets
- Project results and recommendations successfully guide integrated and sectoral policies to enable the transition to a healthy and sustainable food system
- Policy briefs will be developed covering
 - Integrated food policy
 - Public health and consumer education
 - Food safety
 - Agriculture and aquaculture sectoral policies
 - Environmental policy and circularity



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Presentation of the Horizon4Proteins projects: LIKE-A-PRO

Morena Silvestrini



LIKE-A-PRO



LIKE-A-PRO: Project goal & objectives

From niche to mainstream - alternative proteins for everybody and everywhere

LIKE-A-PRO aims at **mainstreaming alternative proteins**, making them **accessible**, **available**, and **acceptable** to everybody and everywhere.

The project brings together key representatives along the entire alternative protein value chain in a trans-disciplinary consortium (**42 entities from 17 countries**) coordinated by CTIC CITA.

Key objectives

- ✓ Understand the consumer behavioural determinants and the necessary food ecosystem governance frameworks that enable a higher uptake of alternative protein products.
- ✓ Diversify the alternative protein supply by developing new alternative protein products.
- ✓ Explore the most effective solutions to promote alternative protein consumption.
- ✓ Empower food system actors to make alternative protein products an easy and economically viable choice.
- ✓ Ensure that the project developments will bring positive changes in terms of health and sustainability of the European food system, while remaining in line with regulatory frameworks and ethical requirement.

LIKE-A-PRO: Policy implications

Contribution to the Farm to Fork strategy and at least other EU/ international policy commitments

THE GREEN DEAL AND THE FARM TO FORK STRATEGY

→ By contributing to all the aims of the Farm to Fork Strategy:

- i. neutral or positive environmental impact, to helping to mitigate climate change and to reverse the loss of biodiversity,
- ii. to ensure food security, nutrition, and public health and
- iii. to preserve affordability of food.

FOOD 2030 PRIORITIES

- i. Nutrition for sustainable and healthy diets
- ii. Food systems supporting a healthy planet
- iii. Circularity and resource efficiency
- iv. Innovation and empowering communities

EUROPEAN CLIMATE LAW

COMMON AGRICULTURAL POLICY

NEW CIRCULAR ECONOMY ACTION PLAN

ZERO POLLUTION ACTION PLAN

BIODIVERSITY STRATEGY

BIOECONOMY STRATEGY

SUSTAINABLE DEVELOPMENT GOALS

Policy implications: also for future EU legislations

FUTURE EUROPEAN PROTEIN STRATEGY (as called for by the European Parliament in its draft report)

→ By fostering and ensuring better condition for EU protein production / Developing alternative protein / Adopting a holistic approach that includes the whole food value chain / Proposing concrete policy actions.

UPCOMING FRAMEWORK FOR SUSTAINABLE FOOD SYSTEMS (to be presented by the European Commission by the end of 2023)

→ By making the EU food system more sustainable / Involving stakeholders from the whole food value chain / Engaging citizens in a bottom-up way

LIKE-A-PRO: EU Policy & Advocacy actions

The consortium will develop 4 policy briefs aimed at EU representatives, focusing on:

- **UNDERSTANDING, IMPROVEMENT AND CONSUMER EMPOWERMENT**
- **ALTERNATIVE PROTEIN PRODUCT DIVERSIFICATION AND DEVELOPMENT**
- **FOOD SYSTEM ACTOR MOBILISATION**
- **IMPACT AND REGULATORY ASSESSMENT**

Like a  PRO

like-a-pro.eu

Morena Silvestrini
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This project has received funding from the European Union under Grant Agreement No 101083961



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Plenary discussion Theme 1:

Protein diversification

Chair: Jacqueline Lyons (smart protein)

- Should we further encourage consumers to diversify their protein sources, and if so, who are the appropriate bodies to deliver this message?
- How can farmers be encouraged to diversify their protein production (i.e. to consider moving from animal to plant protein production?) Should this transition be incentivised by the EU?
- Industry partners are responding to consumer demand for protein diversification. Is regulation required to ensure alternative protein products are both nutritious and sustainably produced as standard?



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Plenary discussion Theme 2: Policy support

Chair: Ine Fels-Klerx (SUSINCHAIN)

- What does policy need in terms of research, data and methods to support policy making in Europe to increase the production and consumption of alternative proteins in Europe? Often there is a lack of LCA and PEF data for given solutions? And if so, are more of such data useful, or other data? In other words, where lie the priorities for science, from the policy making point of view?
- How can we integrate management perspectives / domains across policy areas to make use of the benefits of alternative proteins?
- What kind of policy instruments could be applied to increase sustainable production and consumption of alternative proteins in Europe?



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Plenary discussion Theme 3: Economic Development Chair: Fabio Fanari (ProFuture)

- Limited investment power of Small and Medium-sized Enterprises and the high level of risk represented by consumer acceptance are big obstacles in the process of scaling up and commercialization of innovative protein-rich ingredients and foods. What would be the best approach to follow for these companies and what the institutions can do or already do to support and encourage this process?
- How differences among EU, member states and other countries regulations could influence the innovation and competitiveness level of EU companies?
- Usually, sustainable production implies higher costs which are reflected in the final product price, making sustainable foods niche products. What actions are required to ensure sustainable development and at the same time the alternative protein sector's growth?



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Thank you for attending!

#Horizon4Proteins

