

NextGenProteins 1st
Newsletter - An interview
with Birgir Örn Smárason,
NextGenProteins project
coordinator



1st Newsletter

An interview with Birgir Örn
Smárason, project coordinator of
NextGenProteins



What is NextGenProteins?

NextGenProteins is a 4 year research project funded by Horizon 2020 focusing on the optimization and validation of proteins from microalgae, single cells and insects. During these four years, we will demonstrate the suitability of the proteins in an industrially relevant environment in food and feed value chains with a strategically selected consortium to reflect

food and feed value chain from different angles, from raw material acquisition to retailing, ranging from local SMEs to large, international corporations with extensive market shares. What is especially unique here is that we have brought together three different alternative protein industries into a single project in order to fast-track their development and market adoption. Most importantly, NextGenProteins is a very important step into a future where food is sustainably and responsibly produced.



What is the aim of the project?

The concept of NextGenProteins is simple but very ambitious: to optimise and validate the production of three alternative proteins through resource efficient processes and demonstrate their suitability in an industrially relevant environment. Furthermore, we will verify their use in various feed and food applications, in order to meet customers' needs and ensure consumer acceptance. NextGenProteins will contribute to strengthening food security, sustainability

and self-sufficiency of EU protein production by showing the viability of next-generation proteins as part of food and feed value chains. The project will further study the economic dimension of value chains with the intention of understanding how shifting from traditional protein production to alternative proteins may impact the economic systems they operate in. Social effects, such as on job creations and the job market, will be explored, as well as the social and economic effects that price fluctuations of traditional proteins might have on the demand for alternative proteins.

Why is such project needed?

It has never been so important to re-design how we produce food. Access to high quality protein is becoming more challenging due to growing world population, resource scarcity and climate change. It is therefore one of the more pressing issues of our times to ensure continuous and affordable supply of proteins for humans and animals alike. NextGenProteins three alternative proteins are highly sustainable choices as ingredients for food and feed. All three protein production processes are based on circularity and resource efficiency that use waste materials from other industries thus requiring less natural resources in terms of water, land and fertiliser use and cause limited GHG emissions.

Challenges linked with the Regulatory framework for the application of alternative proteins in Food and Feed

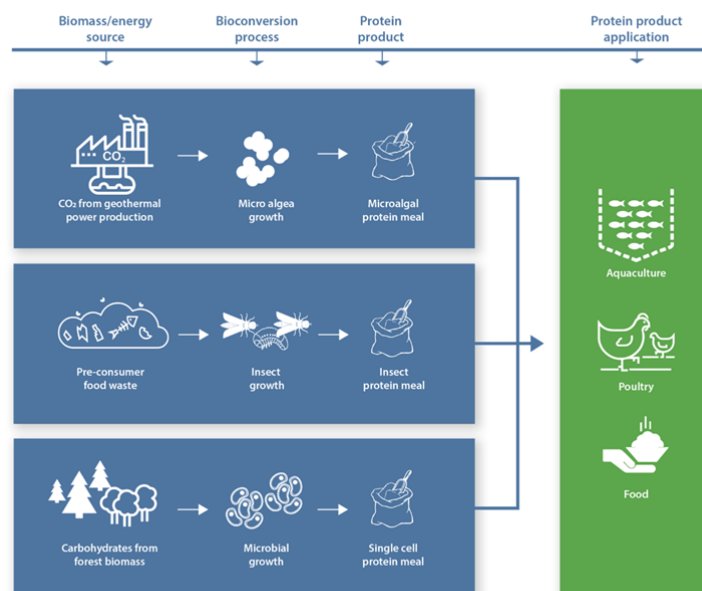
The novel foods regulation ((EU) 2015/2283) for food and the EU regulation for feeds ((EU) 767/2009) are governing the production, safety and application of alternative proteins for food and feed.

However, to ensure food safety, it is necessary to consider the whole food chain from farm to fork. Interviews with industrial partners highlighted following knowledge gaps, regulatory and/or safety barriers and conclusions:

- Consumer health is the most important and therefore scientific information about e.g. toxicology, allergens, microbiological and chemical safety and quality of alternative proteins is needed
- Traceability and labelling of the products (e.g. allergens) is necessary
- Sectorial Associations can be beneficial in providing information and training
- Education of consumers and other stakeholders about alternative protein sources is needed. Information about sustainability, Eco footprint, LCA, safety and nutritional value should be available for these purposes. A formation of a

harmonized coalition of alternative protein producers (similar to Sustainable Seafood Coalition, SSC) and stakeholders would be beneficial in sharing of information about sustainability and other relevant facts and data.

- Novel proteins might be more easily accepted by consumers in feed applications (e.g. aquafeed, broilers, companion animals, pet food) than in human food
- Organic certificate would benefit the industrial partners in food and feed applications
- In food application, alternative proteins need to fulfil technological properties and specifications for the intended use
- Different retail trade operators can have their internal guidelines where they specify e.g. quality limits and requirements for the products. These might differ from legislative limits



1st Protein batches produced for food and feed applications

Arbiom, Processum, Algaeinnovation, Mutatec and Entocube produced first batches of single cell proteins, microalgae and insect proteins for characterisation of nutritional, functional and sensory properties and testing of food and feed applications.

Taking the nutritional needs of the target animals and the nutritional and physical characteristics of the alternative proteins into account, Amadori, Naturalleva, Aquascot and MOWI are formulating and producing at pilot level feeds for fish and poultry containing the alternative proteins. The feed will be analysed before being evaluated in dose-response trials.

Based on product ideas from food companies and food concept results from focus groups with consumers, GRIMUR KOKKUR, FAZER, Harryda and BIOZOON are developing ready meals, bakery products, imitation meat and advanced functional food supplements containing alternative proteins for elderly people.

Responsible Research and Innovation (RRI) Framework

The objectives and impacts of NextGenProteins are linked with the concept of RRI on global grand challenges

related to alternative proteins and ethical, responsibility and sustainability dimensions therein.

A conceptual matrix linking the dimensions of process, product, purpose and people of the research and innovation activities with the components of anticipation & analysis, reflection & reason, engagement & inclusion and act & responsiveness summarizes the NextGenProteins RRI framework.

Furthermore, the [*Societal Readiness Thinking Tool*](#), developed in the New HoRRIZon project, will be used for assessing the R&I process of NextGenProteins along the project. The application of the RRI framework to the NextGenProteins project will be a highly co-creative process between project actors and societal stakeholders through regular and ad hoc meetings, webinars and workshops.



Specialists and companies along the entire value chain, from producers in the forefront of alternative proteins development, through research institutes and university all the way to large and relevant businesses in feed and food production team up to produce the NextGenProteins.

Are you interested in the NextGenProteins project?

Please send us a message

www.nextgenproteins.eu

[Unsubscribe](#)