PLAN P – sPectraL tools and digitalisation for the development of sustAinable structured food with plaNt Proteins

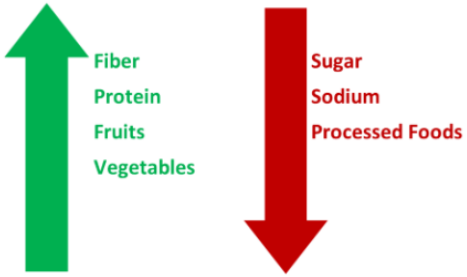
Jonathan Thévenot

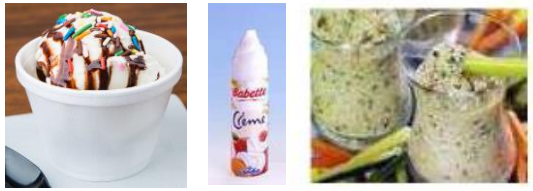
Kick-off cofunded Projects Seminar
17-18th March 2021

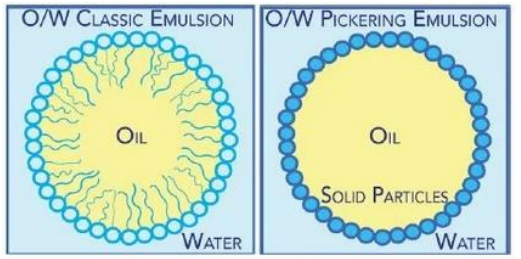
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

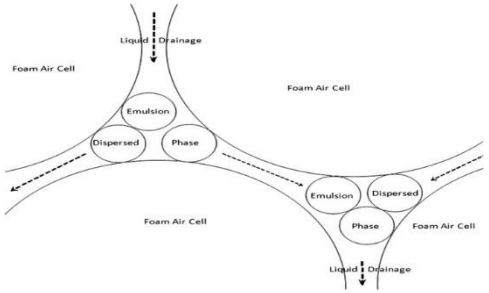
Goal and context

The Food industry currently finds itself in a pivotal and changing period when the consumer want to take control over what they eat









Food emulsions & foams are ubiquitous in the food sector

Desired textural effects

Empirical approach

In order to accelerate the plant food transition, a digital solution will be developed for the conception and production of sustainable food based on plant proteins

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

Main project activities / challenges

Specifically, research into which kind of spectral technology is suitable for assessing production quality

Study how sensor data can be processed through multivariate analysis and machine learning

Major challenge: the development of product quality markers & sensor prototypes for online production monitoring

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

What will your project do?/ Objective and Hypothesis

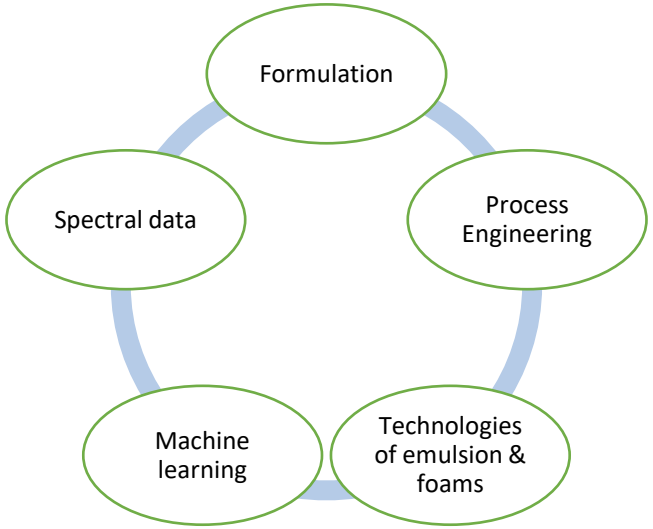
The increase in the supply of food products based on vegetable proteins stimulates their consumption

Garnett et al., 2019. Proceeding of the National Academy of Sciences

Ultra-processed foods

No single way to develop value chains for protein-rich plants or seeds

Garnett et al., 2019. Proceeding of the National Academy of Sciences



→ To accelerate the development of food products

→ To reduce cost

→ To be much more responsive to market trends

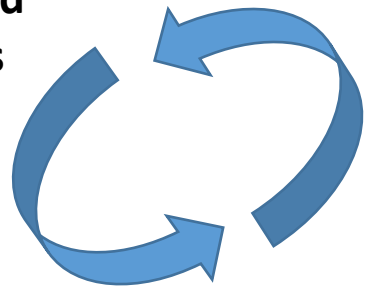
The extraction of relevant information with sensors should facilitate:

- **the development of new products**
- **the changes of scale for production with optimization of processes**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

What is your project contributing to? Potential impact

Constitution of ingredient & functionality databases depending on the food environment and the processes



New knowledge related to the physico-chemical processes of formation of (micro) structures and stabilization

AI + sensors

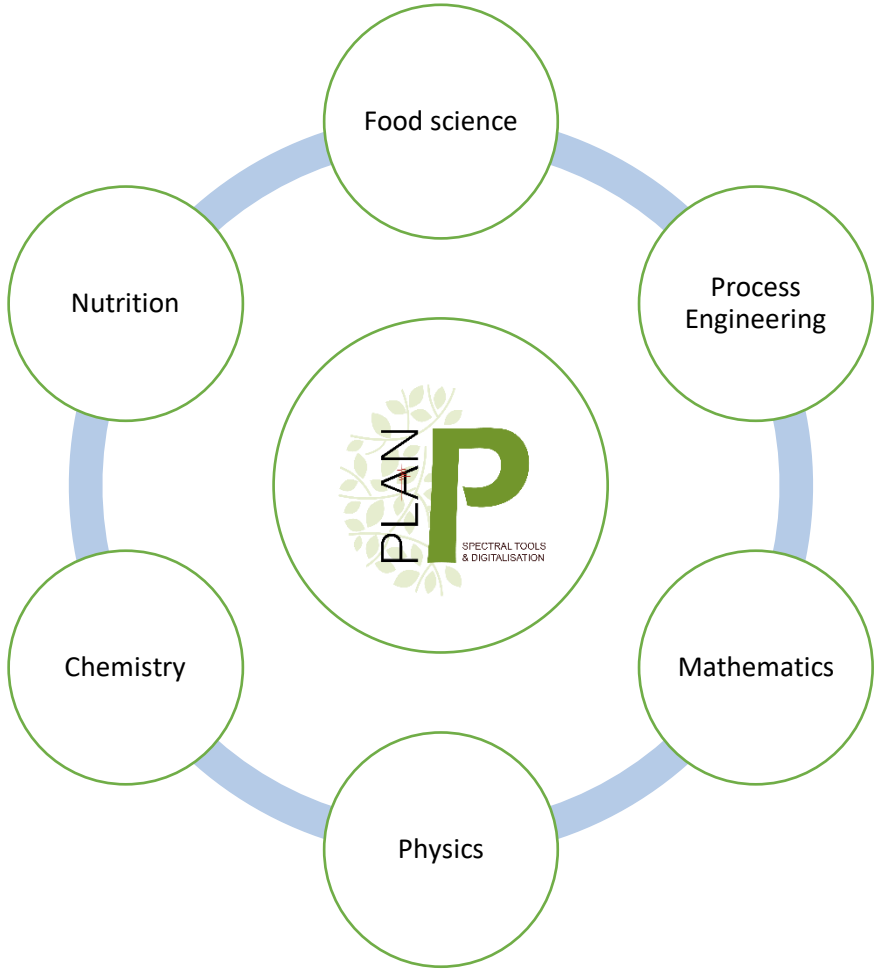
To respond with greater responsiveness and reliability from the specifications to the pre-series at the request of food companies

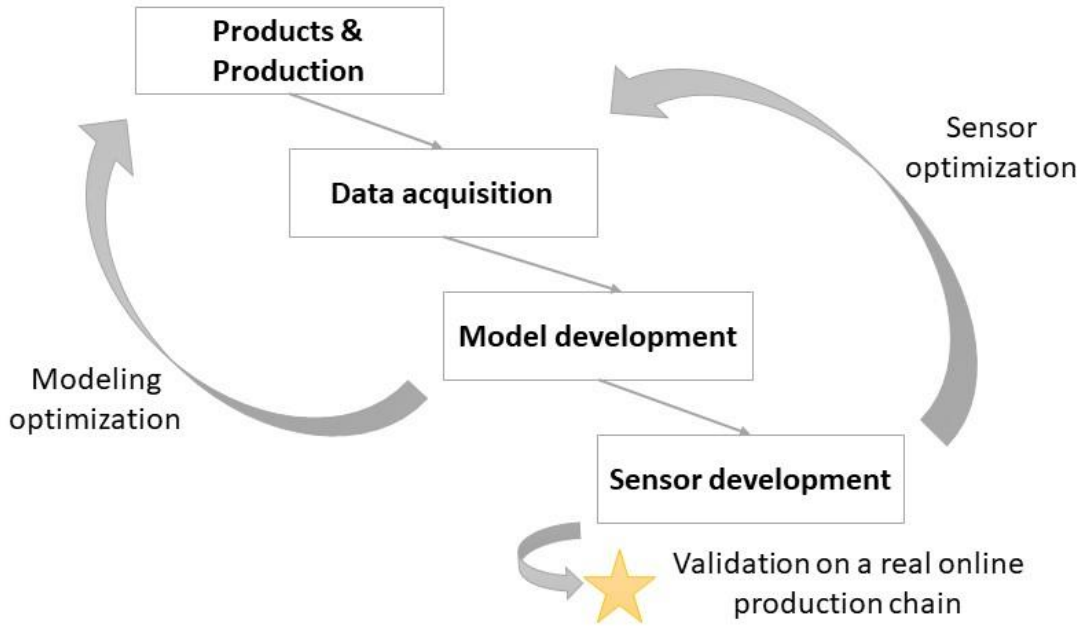
To accelerate the change of scale and monitoring quality during production

---

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

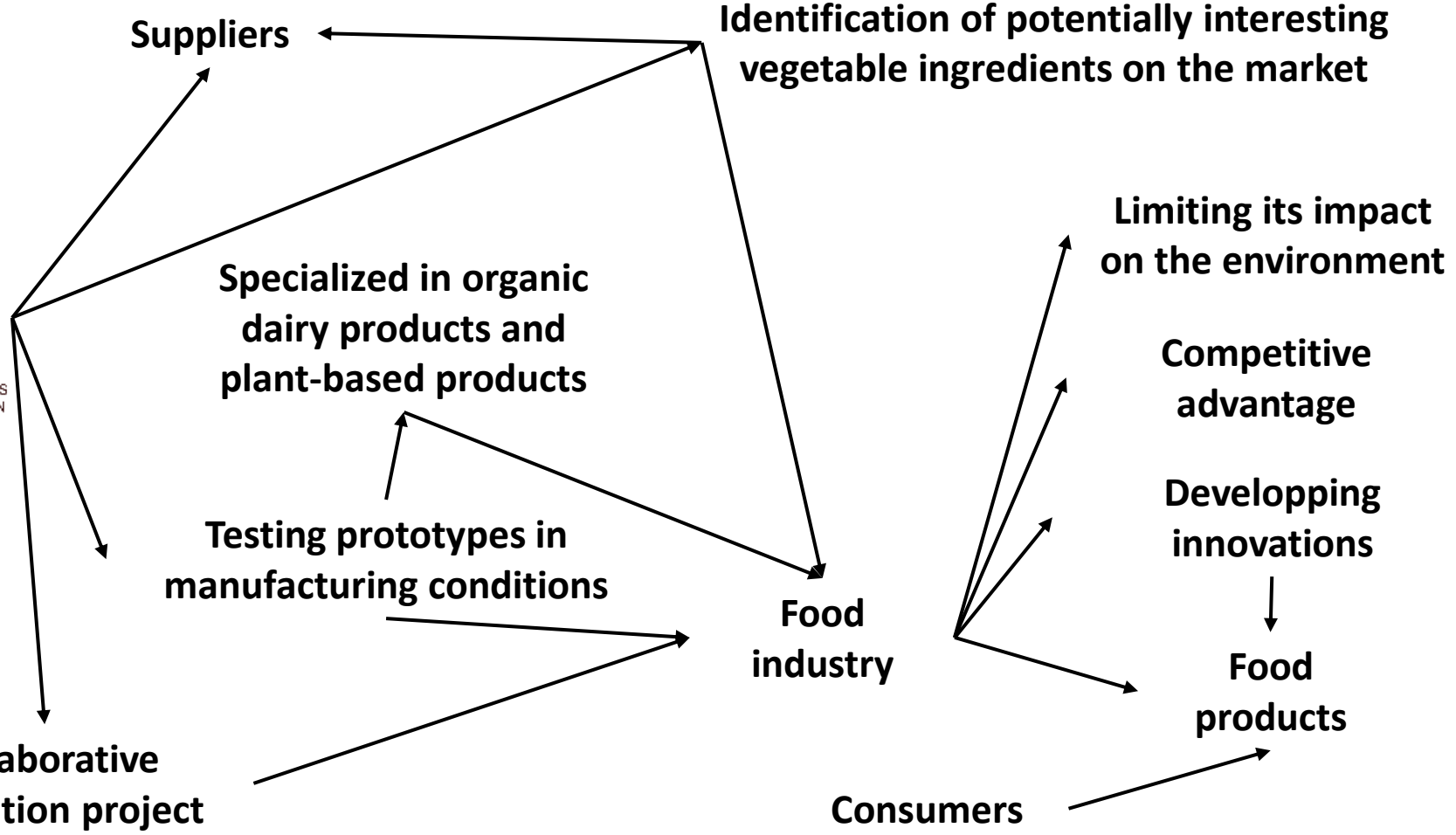
The selected approach / Research approach & activities





This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

Cooperation with Stakeholders / value chain



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

Dissemination and outreach

Dedicated page on the institutional site of the project partners with updates

Annual newsletter (for SMEs, food companies, suppliers, research center)

Congress (sustainable food, nutrition, spectral imaging, IA & data science)

Scientific articles

Exhibition & presentation of the technology to food companies, suppliers, trade associations

Webinars

E-learning session and training courses

Symposium oriented towards all stakeholders

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

Partners / funders (who are they?)

ADRIA FOOD EXPERTISE

FRANCE

Technological research organization with food expertise

DIAFIR Innovative Diagnostic Solutions

FRANCE

Private company specialized in the development of innovative spectroscopic devices combining sensor and AI algorithms

UNIVERSITY OF COPENHAGEN

DENMARK

Department of Food Science KU-FOOD Spectroscopy and chemometrics section

SCiO

GREECE

Private company focused on big data analytics in food systems

Région BRETAGNE

Regional council of Brittany

Ministry of Environment and Food of Denmark
The Danish Agricultural Agency

GSRT
GENERAL SECRETARIAT FOR RESEARCH AND TECHNOLOGY

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

LET'S KEEP IN TOUCH!

Please feel always free to reach out to us.

TWITTER - LINKEDIN

@ictagrifood - https://www.linkedin.com/in/ict-agri-food-1225041b9/

WEBSITE

www.ictagrifood.eu

EMAIL

jonathan.thevenot@adria.tm.fr

Thank you for your attention!