

FLANDERS' FOOD



AGENTSCHAP
INNOVEREN &
ONDERNEMEN



FLANDERS'
FOOD

Samen sterk voor groei

Workshop Primary production in biobased value chains
February 20, 2020, Brussels, Belgium

SPEARHEAD CLUSTER FOR AGRIFOOD

- Industry driven innovation platform **with focus on growth and economic value creation**
- Networked organization **with academic partners** (*universities, RTO's as imec, ILVO, ...*)
- Networked organization **with innovation partners** (*other industry driven clusters*)
- Collaboration **with the Flemish government**
- Collaboration **with the farmer associations** (*Boerenbond and ABS*) in Flanders



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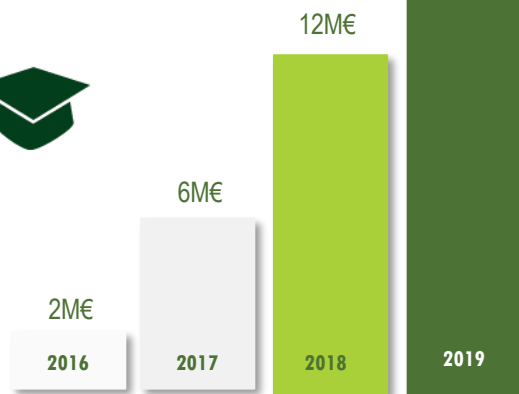
2019

Pilot tests
300+



12 

Research
institutes

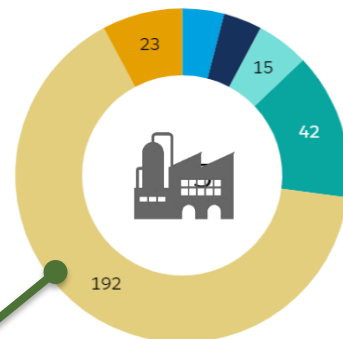


Engaged research budgets



2.000+
Newsletter readers

Hoofdsector
Analyse & Labo
Chemicaliën
Landbouw
Technologie & Informatica
Voeding
Overige



286 Members (companies)



52
Events &
Trainings



50 Ongoing
projects

■ VIS-CO
■ VIS-Traject
■ VIS-Traject innovatievolgers
■ COOCK
■ SBO
■ EFRO
■ Interreg
■ Eraset
■ H2020
■ Andere

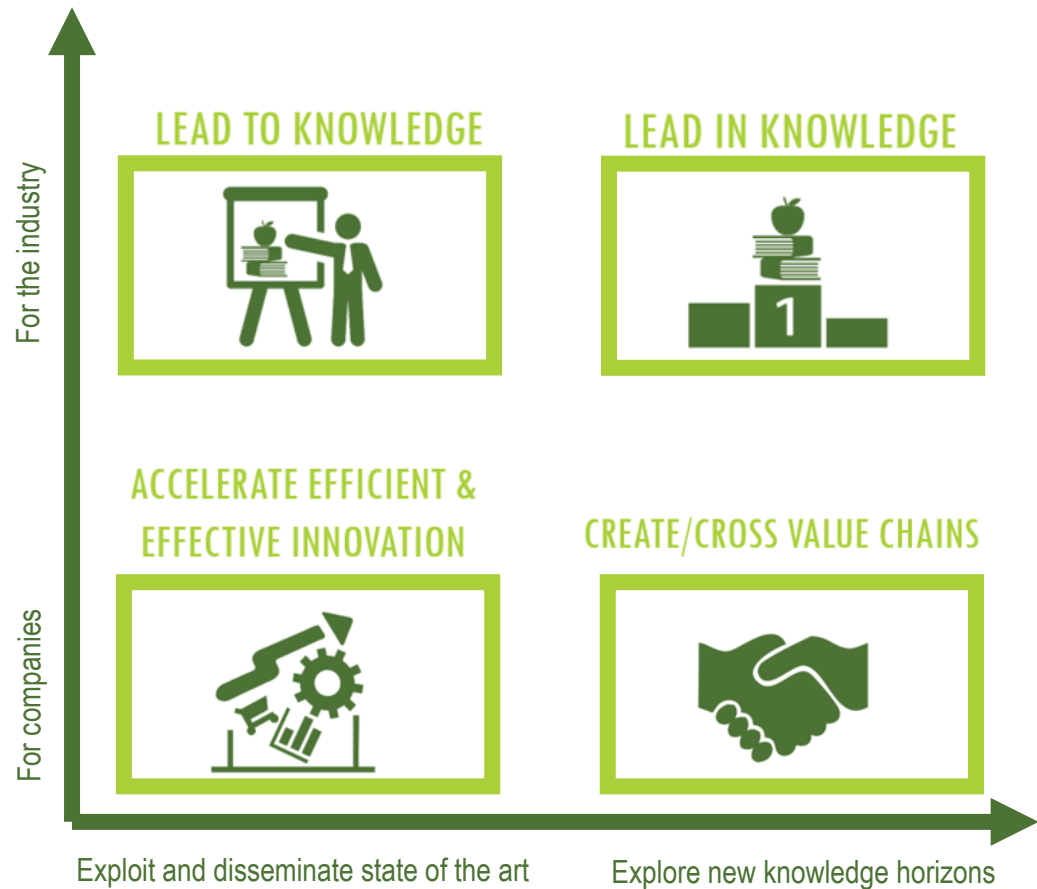


20 FTE

4 STRATEGIC OBJECTIVES

Demand driven knowledge

Business driven knowledge



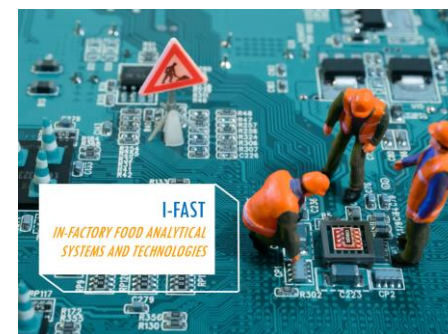
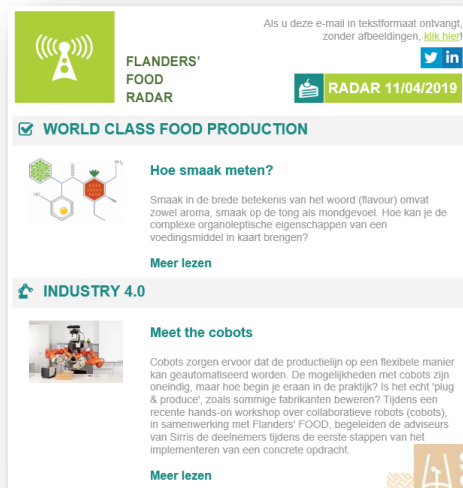
4 STRATEGIC OBJECTIVES

LEAD TO KNOWLEDGE



Bringing state-of-the art knowledge to the companies

- Events
- Projects (collective)
- Newsletters



4 STRATEGIC OBJECTIVES

4 PROGRAMS



LEAD IN KNOWLEDGE



Strategic & fundamental research

- SBO (collective)
- ICON (cooperative)
- International (H2020)
- ...



Several roadmaps
per program

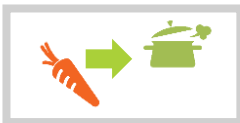
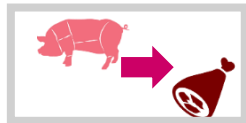
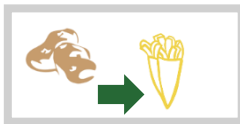
RESILIENT & SUSTAINABLE AGRIFOODSYSTEMS
WORLD CLASS FOOD PRODUCTION
PERSONALISED FOODS & HEALTHY DIETS
NEW & SHIFTING RESOURCES



4 PROGRAMS

RESILIENT & SUSTAINABLE AGRIFOOD SYSTEMS

4



Cross-chain Collaboration
Research & Development

PERSONALISED FOODS & HEALTHY DIETS

1



Nutrition

More to come

Vives
Kulak
ILVO

NuHCaS Infrastructure for nutrition
& care research

WORLD CLASS FOOD PRODUCTION

2



Industry 4.0

Food Packaging of the future



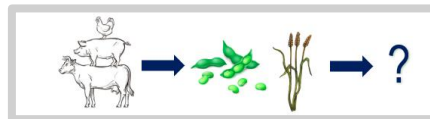
WIFI
SCOPE



i-FAST

NEW & SHIFTING RESOURCES

1



More to come



Resource diversification



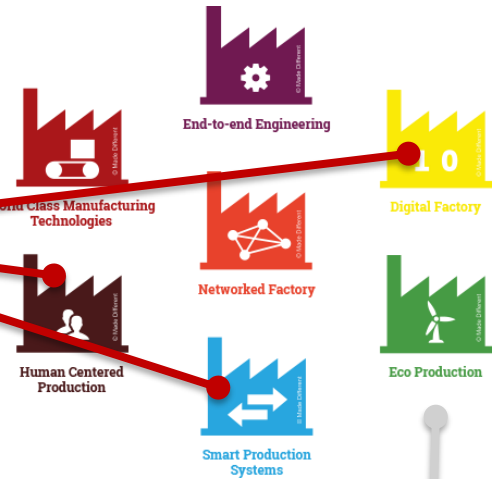
Resource efficiency



CropExplore



food from food



In the
making

4 STRATEGIC OBJECTIVES

The Digital Journey Tracker guides your journey in the digital world by presenting a range of [digital tactics](#) your company can apply based on the [line of business](#) you are in and the [impact area](#) you want to target.



ACCELERATE EFFICIENT & EFFECTIVE INNOVATION



Business support

- Pilot infrastructure
- Tools & guides
- Advice
- ...



4 STRATEGIC OBJECTIVES

CREATE/CROSS VALUE CHAINS



Crossectoral collaborations

- Cooperative projects
- Crossectoral communities
- International platforms
- ...



And many more ...



DANISH FOOD CLUSTER

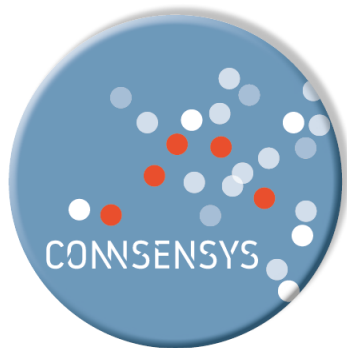


S3P 'Smart Sensors 4 Agrifood'



EU PROJECTS

Smart Sensors 4 Agri-food: 2 approved projects



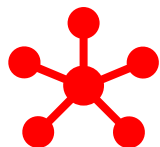
Connecting smart
sensor systems for
the food industry

COSME

1/11/'18 – 31/10/'20



Strategy
Roadmap



EU network
living labs



Study visits
Matchmaking



Demo
cases



Smart sensor systems for
food safety, quality
control and resource
efficiency in the food
processing industry

INNOSUP

1/05/'19 – 30/04/'22



Vouchers (€) for SMEs - 2 open calls:

- € 5 mio → 79% for SMEs
- Direct (vouchers): € 2.875.000
- Max € 60.000 / SME



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DANISH FOOD CLUSTER

wagralim

Appetite for Innovation



S3P 'Nutritional Ingredients'



PROJECT GENERATION IN VALUE CHAIN: FROM FIELD TO FORK

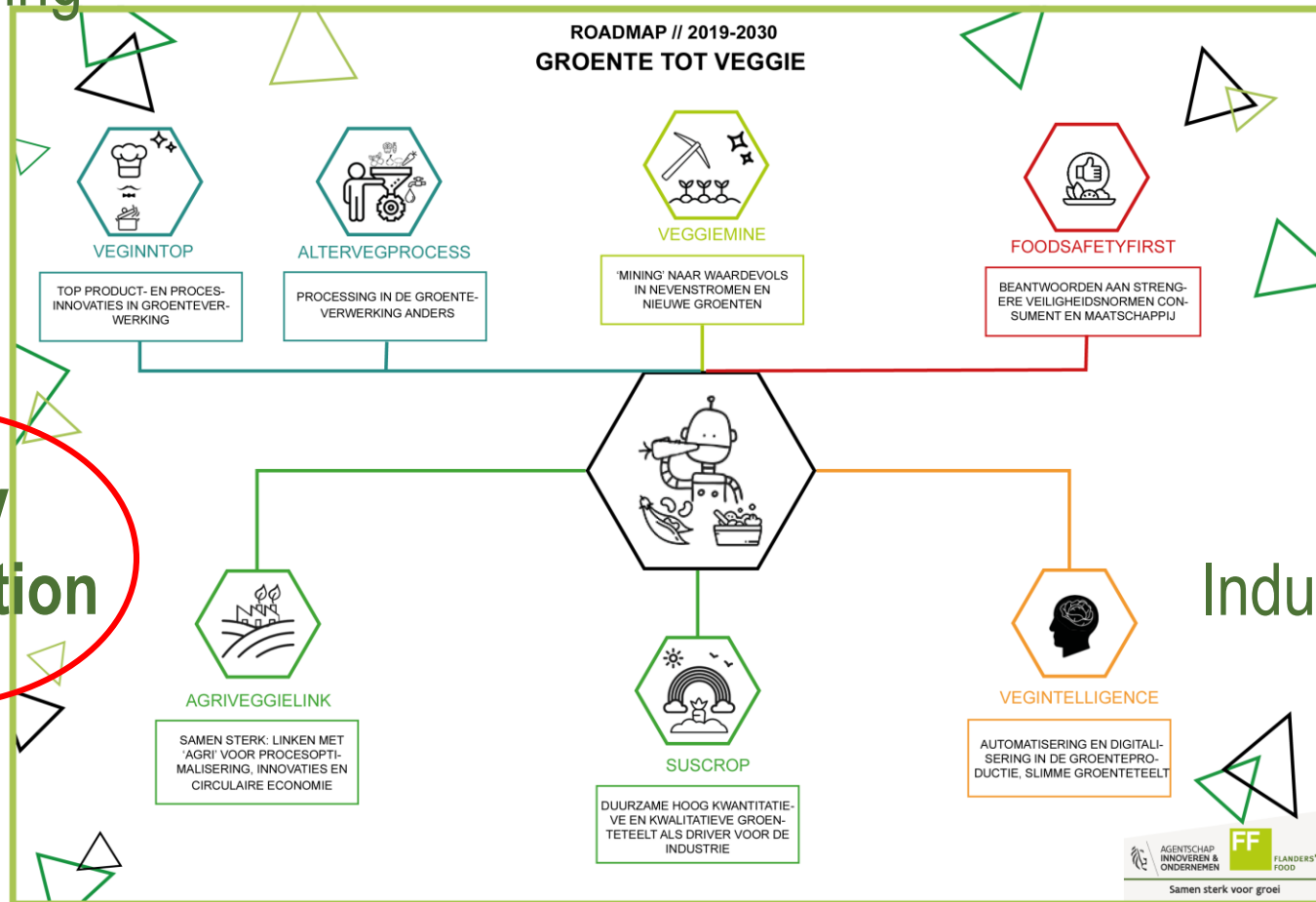
EXAMPLE ROADMAP 'FROM VEGETABLE TO VEGGIE PRODUCT'

Processing

Food safety

Primary
production

Industry 4.0



EDIBLE VS NON-EDIBLE BIOMASS

- Edible biomass → food ('food from food')
- Non-edible biomass → feed/materials/chemicals/nutrients/energy

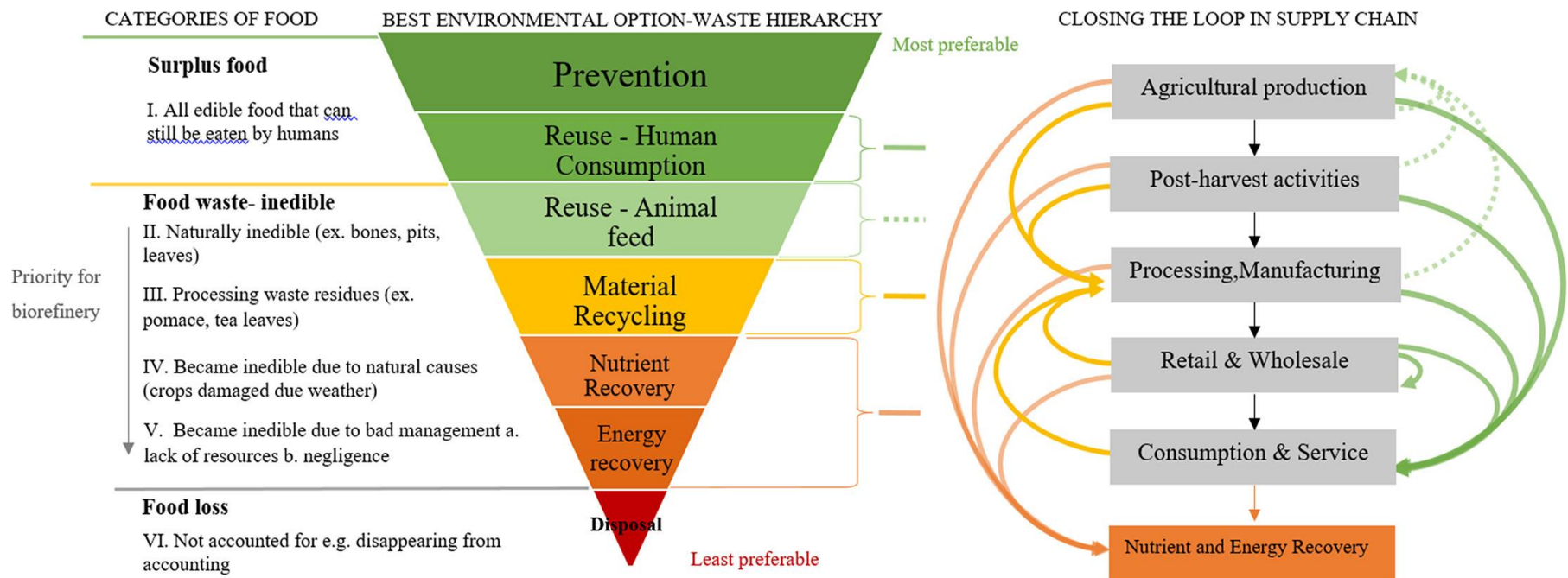


Figure from Teigiserova et al. (2020)

EXAMPLE PROJECTS INCLUDING PRIMARY PRODUCTION / BIOBASED

- Collective R&D: CropExplore
- Strategic basic research (cSBR): EffSep, TexProSoy
- ERDF: Plant Protein Pilot, Belgian Fries Pilot
- BBI-JU: Model2Bio, BioSwitch

PROJECT 'CROEXPLORE'



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- **Exploration of alternative resources** for application in **food/feed**
- **Collective** R&D project (VIS-CO): 1,2 MEUR; start 02/2018; end 01/2022
- Partners: FF (coordinator), ILVO, UGent, KU Leuven

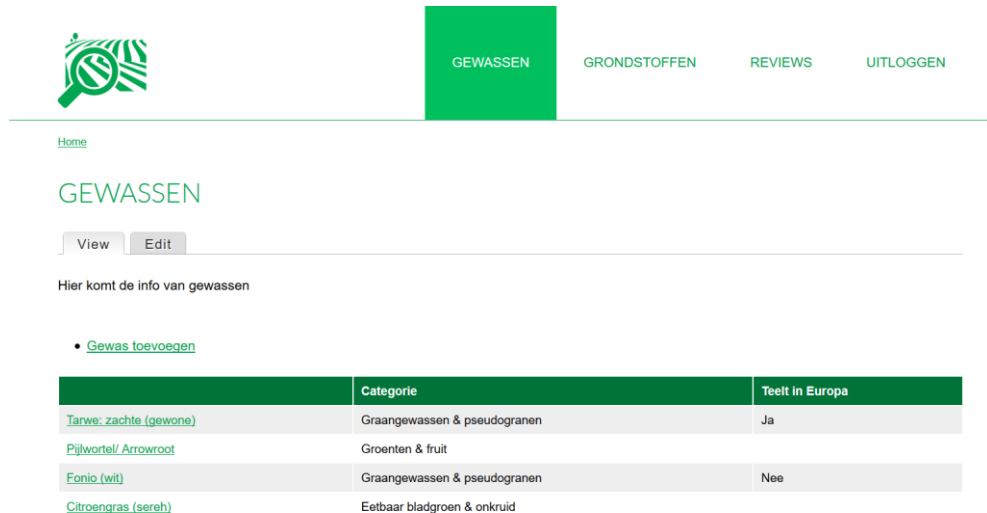


PROJECT 'CROEXPLORE'

- **Database with agricultural info** (yield, seasonality, growing in EU/BE), chemical composition, functionalities and applications
- Development of **new recipes**, based on new resources

- 602 resources:

- fruit and vegetables (247)
- green leaves and herbs (78)
- grains (54)
- nuts and seeds (52)
- legumes (51)
- tubers and roots (45)
- fungi and yeasts (47)
- seaweed (28)



The screenshot shows the CROEXPLORE database interface. At the top, there is a navigation bar with a logo on the left and four menu items: 'GEWASSEN' (highlighted in green), 'GRONDSTOFFEN', 'REVIEWS', and 'UITLOGGEN'. Below the navigation bar, there is a 'Home' link and the title 'GEWASSEN'. Underneath, there are 'View' and 'Edit' buttons. A message states 'Hier komt de info van gewassen'. Below this, there is a link 'Gewas toevoegen'. At the bottom, there is a table with three columns: 'Categorie', 'Teelt in Europa', and an unnamed column. The table contains four rows of data.

	Categorie	Teelt in Europa
Tarwe: zachte (gewone)	Graangewassen & pseudogranen	Ja
Pijlwortel/ Arrowroot	Groenten & fruit	
Fonio (wit)	Graangewassen & pseudogranen	Nee
Citroengras (sereh)	Eetbaar bladgroen & onkruid	

PROJECT 'EFFSEP'



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- **Efficient separation macroconstituents** (proteins, polysaccharides, lipids) from biomass with conservation of **functionality for food/feed**
- **Strategic basic research** (cSBR): 3,0 MEUR; start 11/2019; end 10/2023
- Partners: UGent (coordinator), KU Leuven, UHasselt, FF
- **Decision tree:** generic biomass pre-treatment + separation
- Steering committee of companies

PROJECT 'TEXPROSOY'



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- **Impact of processing** on techno-functional and nutritional properties of soy protein
- **cSBR**: 1,1 MEUR; start 10/2019; end 09/2023
- Partners: KU Leuven (coordinator), ILVO, FF
- Processes: extraction, drying, **high moisture extrusion (HME)**
- Biomass: soy, cultivated in Flanders



PROJECT 'PLANT PROTEIN PILOT'

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EFRO
EUROPEES FONDS
VOOR REGIONALE
ONTWIKKELING

- European Regional Development Fund (**ERDF**): 520 kEUR; start 01/2020; end 12/2021
- FF is promotor
- **Pilot infrastructure** at Food Pilot (ILVO, Melle, Belgium) to process plant protein:
from primary crop → extruded protein product



PROJECT 'BELGIAN FRIES PILOT'

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EFRO
EUROPEES FONDS
VOOR REGIONALE
ONTWIKKELING

- **ERDF: 693 kEUR; start 01/2020; end 12/2022**
- **FF is promotor**



- **Pilot infrastructure at VEG-i-TEC (UGent, Kortrijk, Belgium) to process potato/vegetable → fried product**
- **Co-financing by companies: Belgapom, Vamix (Vandemoortele), Huis van de Voeding**



Europese Unie

VLAAMS HUIS VAN DE VOEDING

PROJECT 'MODEL2BIO'



- **Modelling tool** to give value to agri-food residual streams in biobased industries
 - H2020-**BBI-RIA**: 5,9 MEUR; start 05/2020; end 04/2023
 - Coordinator: CEIT-IK4 (Spain)
 - FF is partner
-
- **Decision-support system** for **valorization of agri-food residual streams** from a technical/economic/environmental/social perspective

PROJECT 'BIOSWITCH'



- Encouraging **brand owners** to **switch to biobased** in highly innovative ecosystems
- H2020-**BBI-CSA**: 1,0 MEUR; start 05/2020; end 04/2022
- Coordinator: CLIC Innovation (Finland)
- FF is partner

- **Toolbox** to encourage **brand owners** from 4 different sectors (chemistry, forestry, food, agro) and at different transition stages to switch to biobased approach
- **Food case**: sustainable **packaging** for food products using bioplastics from food waste

CONCLUSION

- FF = **networked** organization in the agri-food system in Flanders and Europe
- FF = project **broker** for **cooperation** in the **quadruple helix** (industry-academia-government-society)
- More involvement of **primary production** in our projects
- FF is **full member** of the Bio-based Industries Consortium (**BIC**)
- **Role of FF** in projects is:
 - partner with expertise in dissemination, communication, exploitation
 - coordinator for selected topics

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