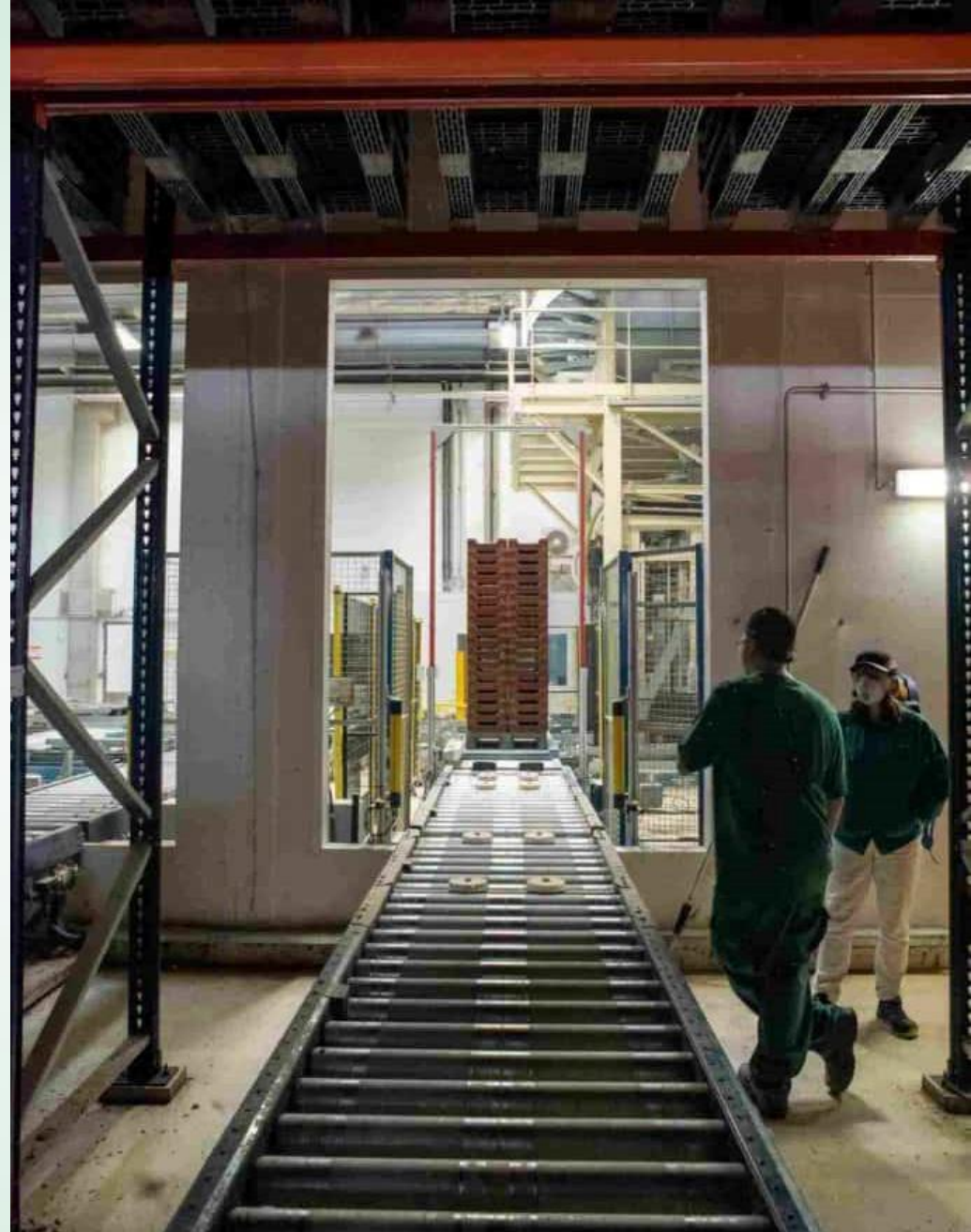


OVERVIEW INVESTMENT AND FUNDING PERSPECTIVES

THE EU INSECT SECTOR



Introduction

contribution of the EU insect sector to addressing agri-food challenges



59 million tons
of food waste / year in the
EU, the equivalent of **131**
kg/inhabitant (*Eurostat,*
2020)



The COVID-19 pandemic and
the Russian aggression in
Ukraine highlighted
vulnerabilities in EU food
supply chains (e.g. fertilisers)



Efforts are necessary to
accelerate the **transition**
towards **more sustainable**
diets and **increase domestic**
production of key
commodities

Introduction

connecting local agricultural supply chains



Farmed insects **generate regional products**, using local untapped resources, thereby **improving circularity** in agriculture



Insect farming has a **low environmental footprint**, especially in terms of **land and water** use, and has **positive impact** on the preservation of **biodiversity**



Insect production practices can bring **diverse opportunities** for **farmers** involved in animal husbandry and crop cultivation alike



By connecting agricultural supply chains and developing **'green jobs'**, insect farming can facilitate **generational renewal** in **agriculture** and contribute to **boosting rural economies**.

Edible insects have the potential to reconnect the agri-food chains - from 'farm to fork' and beyond

- 01** Farmed insects not only reduce the dependency on imported sources of protein - they generate local products, using local underutilised resources.
- 02** Insect farms aim at diminishing the burden of food waste - in line with the waste hierarchy.
- 03** Insects are highly versatile, feeding on a wide spectrum of products - thus, by optimising the use of former foodstuffs as animal feed, insects can safely upcycle materials that are not suitable for poultry, swine or ruminant species.

The European insect sector is committed to reducing EU's food waste burden. In order to maximise the circularity potential of insects, IPIFF aims at...

- Facilitating the wider use of former foodstuffs
- Diversifying the spectrum of authorised former foodstuffs
- Further exploring the added value of catering waste

By products from insect farming activities, such as insect frass, could play a key role in providing local solutions to improving soil fertility.

the land application of insect frass is consistent with circular economy's principles, by reintroducing valuable materials into the food production chain as alternative to linear models that avoid and with to dispose, rather offering sustainable solutions to European farmers and / or gardeners.

Source: IPIFF Contribution Paper on Frass

Out of the 90 million tonnes of food wasted annually in the EU, **circa 1/3 could be safely upcycled through insect bioconversion**

Source: IPIFF factsheet 'Connecting local agricultural supply chains through insect farming' (February 2020)

Introduction

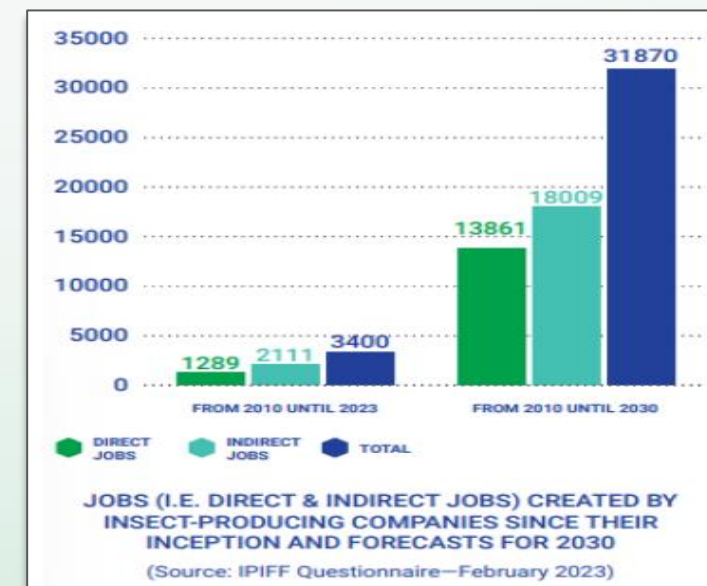
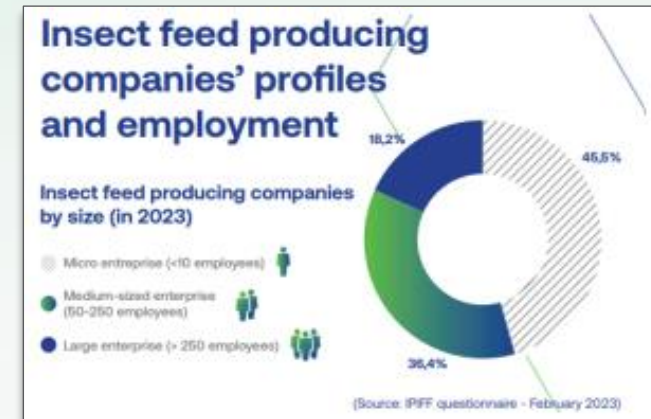
contributing to the generational renewal of EU regions

- Insect farming and producing activities generate **new economic opportunities** by **connecting existing agri-food chains** and **creating new agri-food segments**
- With its different application purpose products (incl. human nutrition, animal feed, soil fertiliser and/or technical applications), the EU insect sector also contributes to **the creation of innovative and green jobs in rural areas**, encompassing a wide range of skills and diverse professional qualifications.



Current state of development of the European insect sector

- More than **EUR 1,5 bln** investments until now: the sector is predominantly composed of **SMEs**.
- The sector has passed a **critical threshold** and has set its mark to **be commercially interesting**.
- **Production is scaling up** to meet the needs of food-feed-plants markets, while building up **know-how**.
- **Diversity** in **types** of farms, operational sizes and **production models** (e.g. 'full liners' vs. decentralized models)
- **Higher level** of **integration** with several other **production** systems (e.g. 'colocation' with agro-industries, partnerships with farmers)
- **3500 jobs created until today** (incl. above 1,000 direct jobs) and expected to create **over 30000 by 2030**.

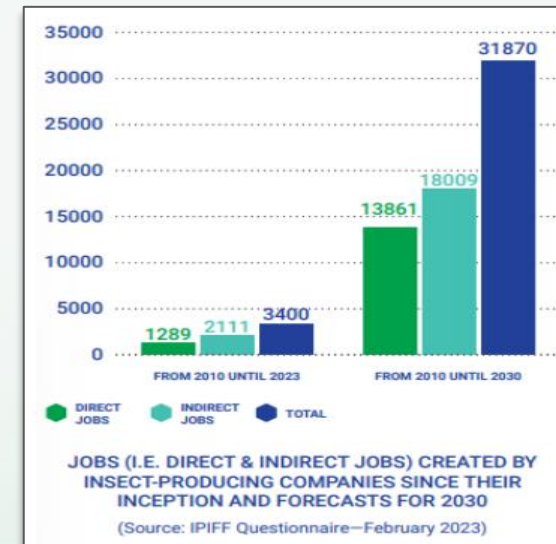
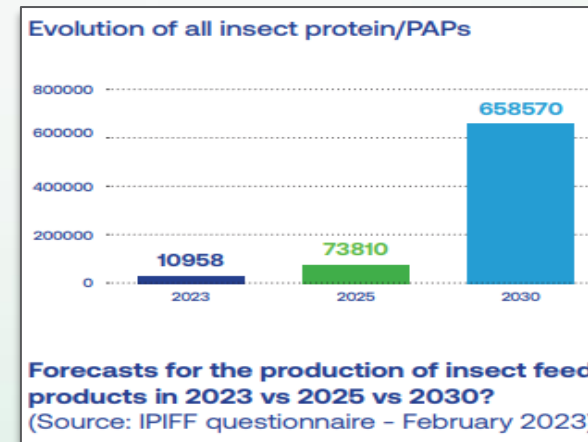


Perspectives on the development of the European insect sector towards 2030

The recent evolutions experienced by European insect producing companies are now shaping their ability contributing to **addressing the current deficit in EU domestic protein production** (both for food and animal feed).

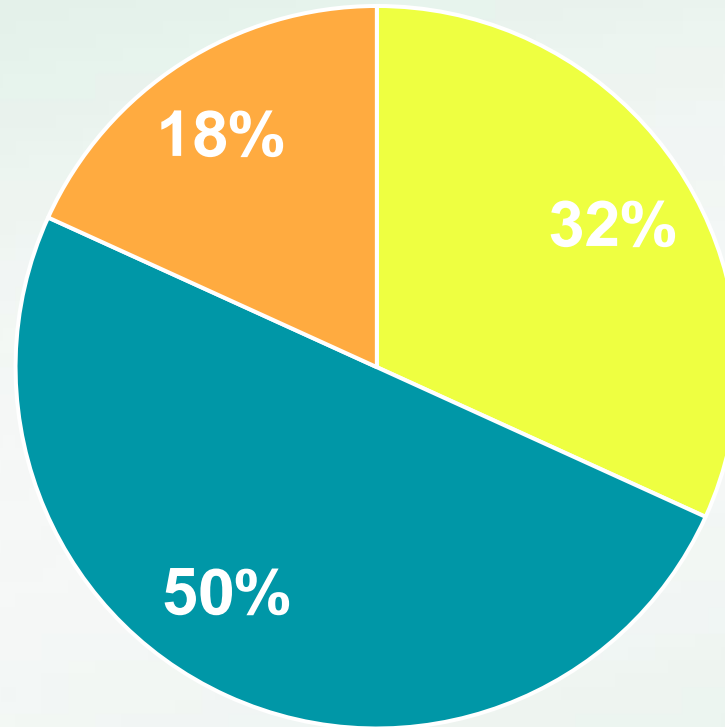
→ by the end of the decade, there will be a significant spike in the **number of insect farms producing above 10,000 tonnes** per annum, thereby developing large-scale operations;

→ The number of **European livestock farmers, who decide to diversify their commercial activities towards insect production**, will be increasing.



Insect companies' operational capacity

Nbr of operational sites per company



2/3 of the EU insect companies (68%) have 2 or 3 operational facilities

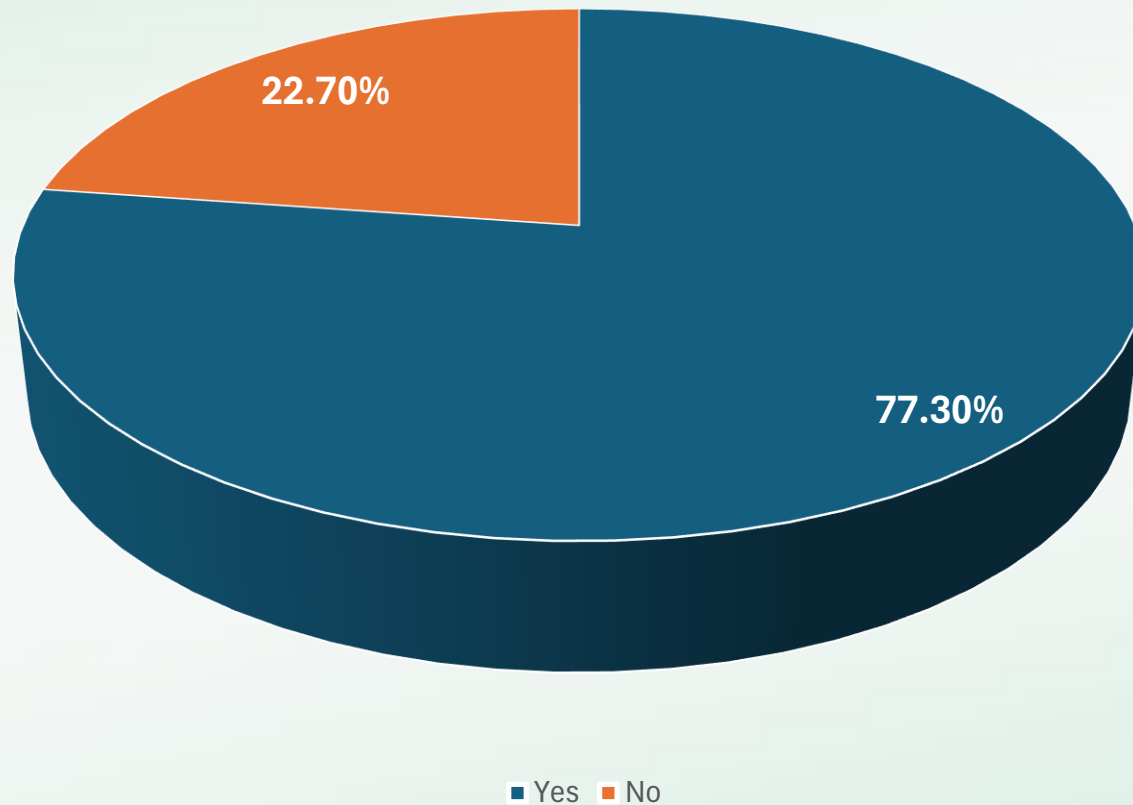


Source: IPIFF Member Questionnaire 2024
'Overview of Investment and Funding Perspectives in the EU Insect Sector'

■ 1 ■ 2 ■ 3

The sector is undergoing rapid expansion

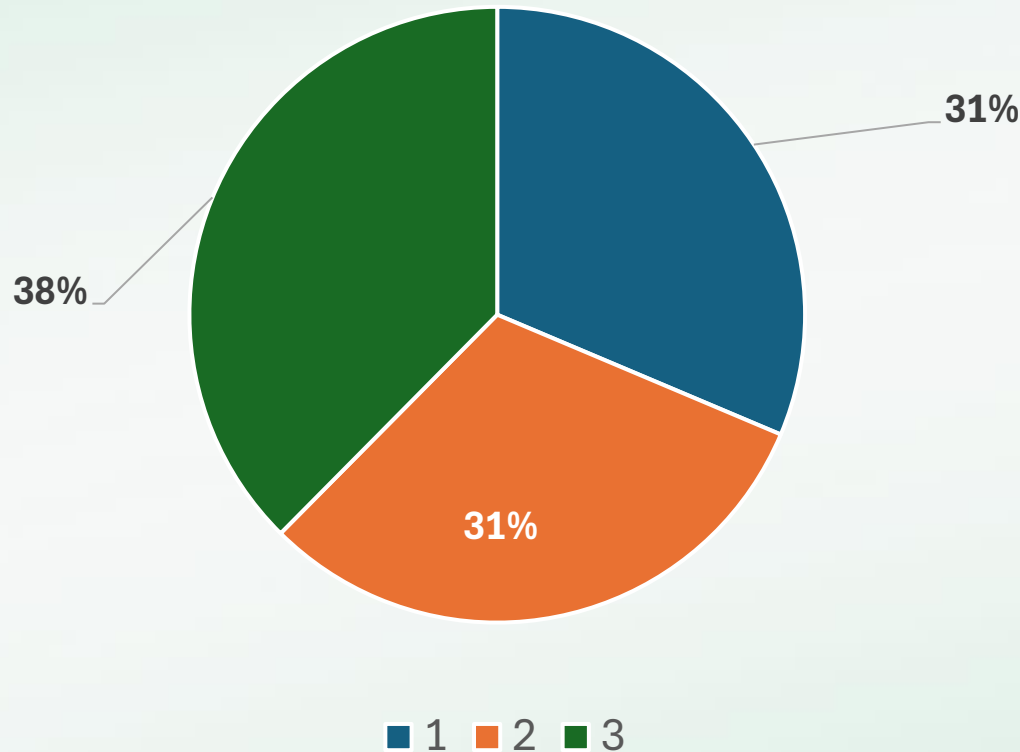
Are you developing another production site?
(i.e. projects in a development phase, including basic/detailed engineering)



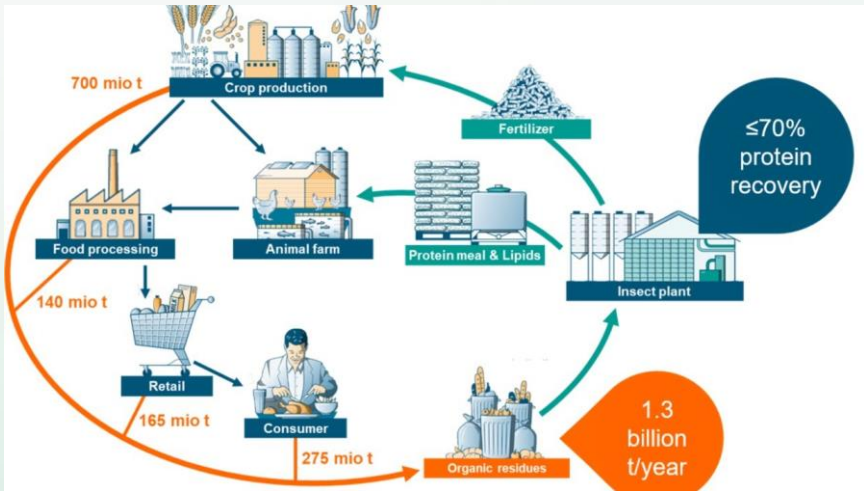
Source: IPIFF Member Questionnaire 2024
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THE EU INSECT SECTOR IS GROWING....

How many production sites is your company currently developing?

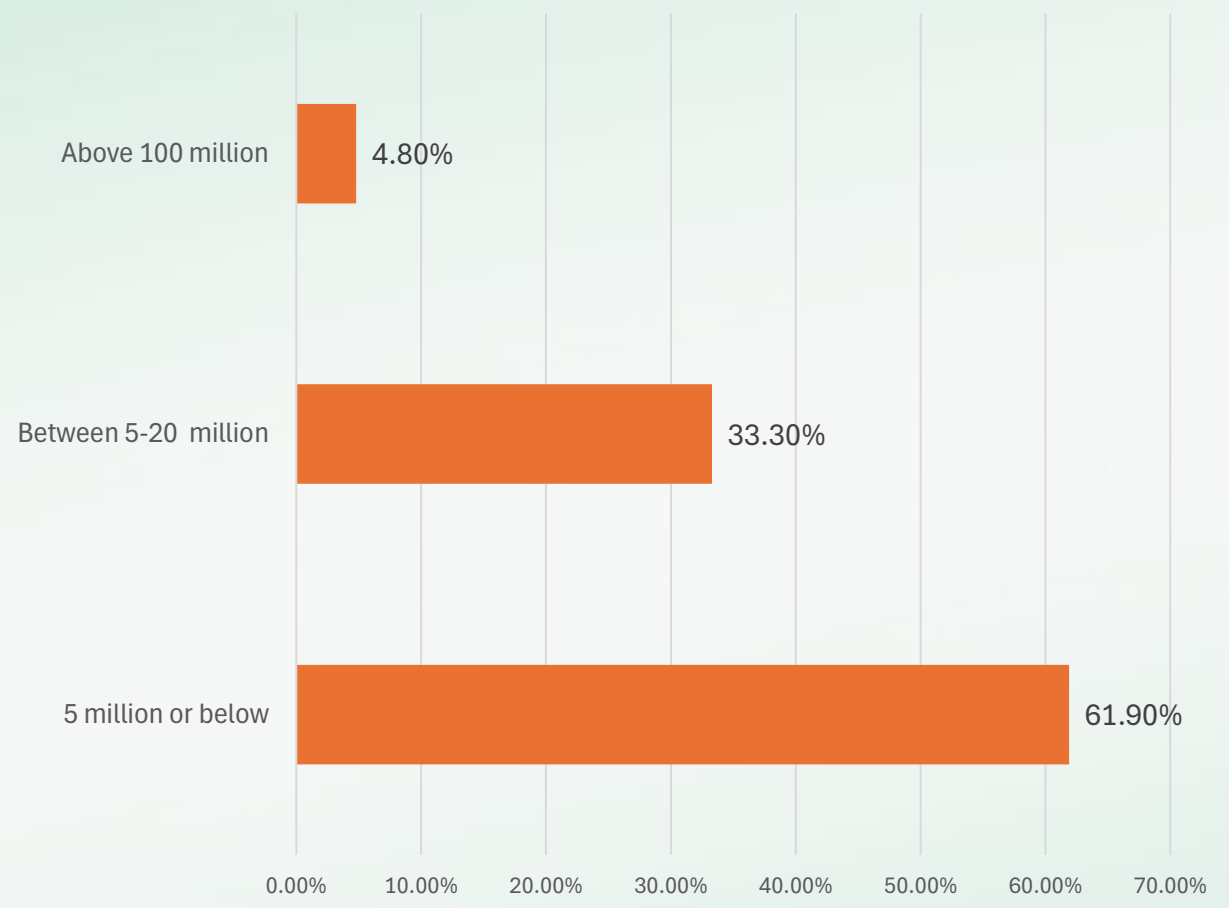


The majority of companies informed to be building 2 or 3 operational facilities (69%)

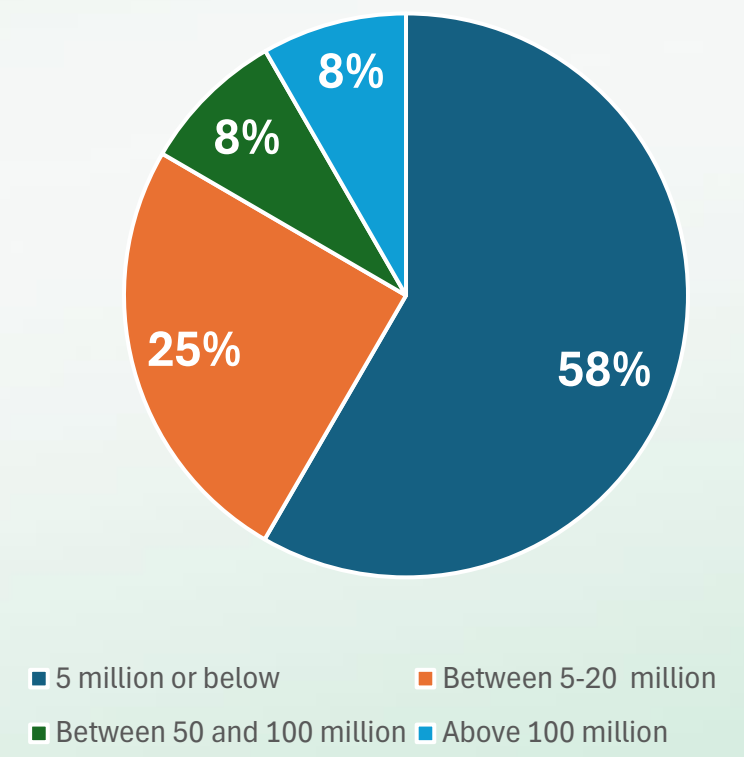


Investment is growing

Average capex investment for the 1st operational site

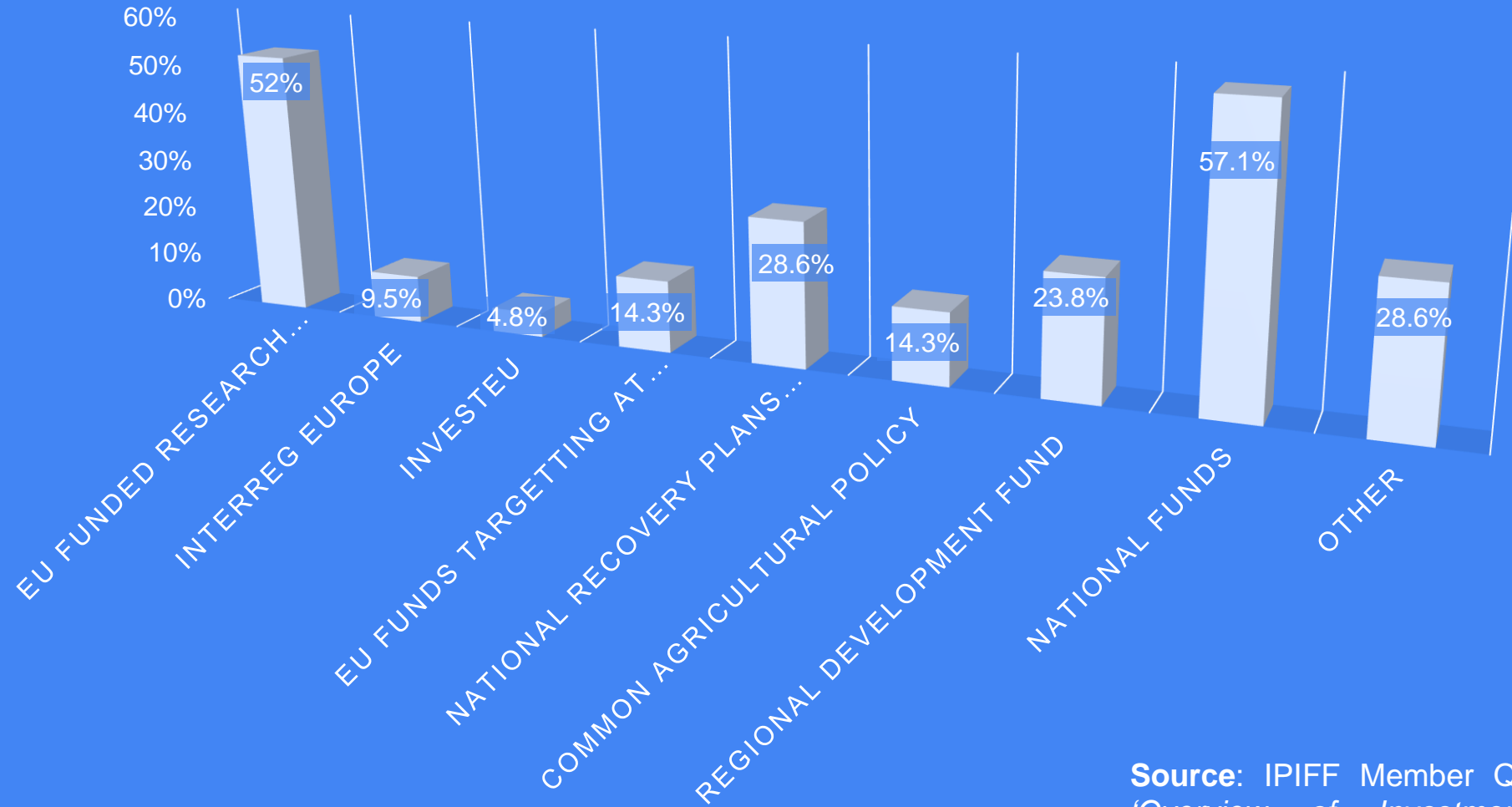


Average capex investment for a 2nd operational site



EU funding to insect producing companies...

WHICH FUNDS HAS YOUR COMPANY BENEFITED FROM?



Source: IPIFF Member Questionnaire 2024
'Overview of Investment and Funding Perspectives in the EU Insect Sector'

Main regulatory challenges ahead of the sector

Although insect-producing companies have created a lot of critical mass over the last few years, the sector is **far from having achieved its full potential**.

According to the IPIFF Treasurer **Heinrich Katz**, *'the European insect sector is at a crossroads (...) before, insect producers were challenged by legislative barriers that were inhibiting them from selling their products as food, feed for aquaculture, poultry, and pigs. This challenge is now in the past. However, several other challenges are laying in front of the sector, including on the legislative side'* (source: IPIFF brochure, November 2023)



Addressing current regulatory bottlenecks

- Registration of processed insect frass under the EU fertilisers legislation, thereby giving full EU market access for the use of insect dejecta as a fertilising product (reform expected by end of 2024-1st half of 2025);
- Setting EU regulatory standards for insect organic production and authorisation for using conventional insect proteins in organic aquaculture (new rules could be in place as from the end of 2024 - 1st half of 2025);
- European Commission proposal in view of including more feeding substrates to be legally applicable for insect farming (e.g. meat and fish containing former foodstuffs, depending on the final conclusions of a future food safety assessment to be conducted by the European Food Safety Authority; the European Commission may table a regulatory proposal by early 2026).

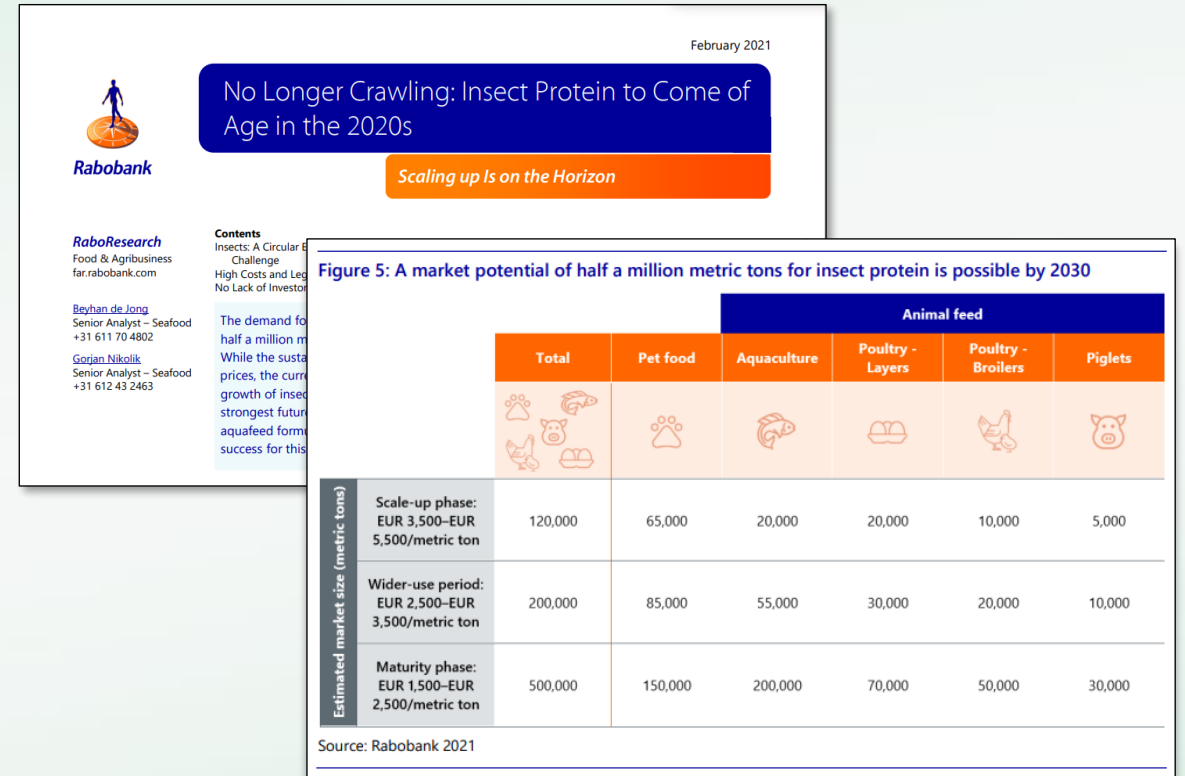
source: IPIFF brochure, November 2023

Potential of insect proteins for use in feed for famed animals

... 'Currently, **pet food** is the **largest market for insect proteins**, followed by the aquafeed market' ...

... 'By 2030, we estimate a global market potential for (use as aqua feed) of up to **200,000 metric tons**, or **40%** of the insect protein market' ...

...' Our estimations show that as the sector reaches a certain maturity, **the demand for insect protein as layer hen feed** could reach up to **70,000 metric tons globally**'...



'No longer crawling: Insect protein to come of age in 2020s' – Rabobank (February 2021)

IPIFF Policy roadmap for the next three years

IPIFF President, Adriana Casillas ‘The European insect sector has the potential to tick both boxes: Our members are committed to contributing to the realisation of the EU sustainability targets, whilst meeting its newly defined objectives towards achieving greater food security’ (source: IPIFF brochure, November 2023)



Contribution of the insect sector to the EU sustainability and food security agenda

- Adopt a **holistic approach** and deploy **ambitious actions**
- Devising of **future-oriented projects**, where insects can bring added value in addressing key challenges (e.g. food waste, soil fertility, human and animal health)

Main pillars

- **The 'next' CAP** may include agri-environmental measures targeting **diversification initiatives towards insect production**
- Insect production can contribute to the **EU efforts** towards a **decarbonised economy** (EC Communication from 09-11-22)
- Insect production can contribute to increase the **EU domestic production of proteins**
- **EU cohesion policy Post 2027** can strengthen the contribution of insect farming to EU's territorial, social and economic cohesion.
- The **EU insect sector** have a critical role in **the EU industrial and innovation policies**
- The **new multiannual framework 2027-2031** should take into account the **contribution of our sector and tailor the funding opportunities to its needs.**

