

# EU Project CoRoSect Comes to a Close: New Dawn for Insect Farming Practices Begins

**CoRoSect**, a Horizon 2020 project led by Maastricht University that started in January 2021, has **successfully concluded in March 2024**. The project's goal was to foster collaborative environments between humans and robots, while also streamlining labour-intensive tasks in insect farming production. The overarching goal was to significantly contribute to the optimization and automatization of small and medium-sized insect farms that breed and rear black soldier flies, mealworms and crickets. Thus, CoRoSect introduced an integrated cognitive ecosystem that replaces monotonous and challenging tasks of insect farming with automated processes.

## Significant Achievements in Insect Farming Achieved

CoRoSect addressed practical challenges in insect rearing, including handling crates, monitoring environmental conditions, larvae separation, and quality management. Four large-scale pilots conducted in Norway, Italy, Bulgaria, and Spain played a pivotal role in refining the CoRoSect system, comprising diverse software and hardware components of various complexity levels. Thanks to the collective and individual effort of the consortium members, and insect farms willing to provide time, space, knowledge, and insects, the CoRoSect system was successfully fine-tuned.

*"I would like to thank the European Union as well as all partners and stakeholders of CoRoSect for their enthusiasm, commitment, and support during the past 3 years. Together we have been on an exciting journey to provide insect farms with next generation robotic and digital solutions. Remarkable results have been achieved. It has been an honour to serve this project as project coordinator."*

**Dr. Rico Möckel**, Maastricht University

## Key Highlights of CoRoSect's Impact:

- Successful execution of four pilots at INVERTAPRO, Italian Cricket Farm, Nasekomo, and Entomotech.
- More than 50 scientific and business robotic players benefited from CoRoSect demonstrations.
- A novel service-oriented ICPS (Integrated Cyber Physical System) capable to support more than 97% of key target task planning and real-time adaptation scenarios in insect farming.
- More than 90% accuracy of robots' efficiency to classify larvae.
- New multimodal sensing method, including active sensing with more than 90% detection rate.

## Benefits for Humanity and Environment

CoRoSect's innovation lies in transforming low-quality organic waste into protein-rich food suitable for humans and animals, aligning with circular economy principles. By fostering symbiosis between



humans and robots, CoRoSect not only revolutionizes insect rearing but also streamlines production processes, enhancing sustainability and income generation.

## CoRoSect's Legacy and Future Outlook

With 19 partners across Europe, CoRoSect's success signifies a paradigm shift in insect farming automation. Its legacy marks the beginning of a new era, promising transformative impacts on the future of insect farming and automation.

The CoRoSect project gathered 19 partners across Europe and was funded by the European Union's Horizon 2020 Framework Programme. All the information is available on the project's [website, as well](#) as on its pages on [Facebook, LinkedIn, Twitter, and Youtube](#).

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