Strengthen Risk Assessment in Insect Pollinators

Thematic Discussion on bees/insect pollinators

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Trusted science for safe food

efsa

European Food Safety Authority

Overview

- Background on systems-based ERA
- Data Sharing among Stakeholders: the EUBP
- Tool development: the ApisRAM model
- Further research on non-target arthropods
- Upcoming activities

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Strengthen Risk assessment on bees

EFSA JOURNAL

Editorial | 🔓 Open Access | (cc)(i)(=)

EFSA is working to protect bees and shape the future of environmental risk assessment

Simon J More ✉, Domenica Auteri, Agnès Rortais, Steve Pagani

First published: 05 January 2021 | https://doi.org/10.2903/j.efsa.2021.e190101 | Citations: 2

EFSA JOURNAL

Scientific Opinion | 🔓 Open Access | (cc)(i)(=)

A systems-based approach to the environmental risk assessment of multiple stressors in honey bees

EFSA Scientific Committee ✉, Simon More, Vasileios Bampidis, Diane Benford, Claude Bragard
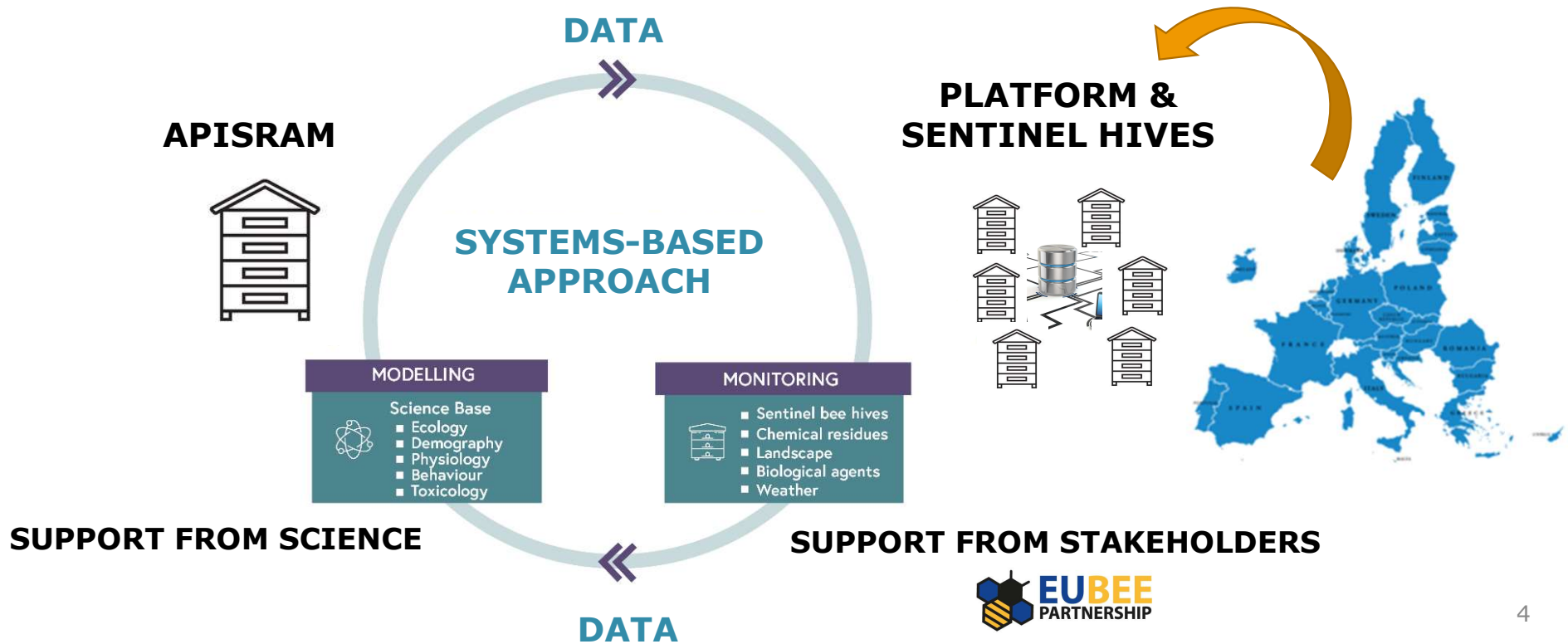... See all authors ∨

Link **current and future Risk assessments**
* Review 2013 Bee Guidance Document
* MUST-B holistic ERA

Develop an approach and tools for more **holistic risk assessments**

Systems-based approach for ERA

For predictive and post-authorisation risk assessments of pesticides

DATA

APISRAM

PLATFORM & SENTINEL HIVES

SYSTEMS-BASED APPROACH

MODELLING
Science Base
- Ecology
- Demography
- Physiology
- Behaviour
- Toxicology

MONITORING
- Sentinel bee hives
- Chemical residues
- Landscape
- Biological agents
- Weather

SUPPORT FROM SCIENCE

SUPPORT FROM STAKEHOLDERS

EU BEE PARTNERSHIP

DATA

The EU Bee Partnership (EUBP)

EVENT REPORT

APPROVED: 20 September 2017

doi:10.2903/sp.efsa.2017.EN-1299

2017

Collecting and sharing data on bee health: towards a European Bee Partnership

European Food Safety Authority
and European Farmers and European Agri-Cooperatives,
European Professional Beekeepers Association, BeeLife the European Beekeeping
Coordination and the European Crop Protection Association

TECHNICAL REPORT

APPROVED: 16 May 2018

doi:10.2903/sp.efsa.2018.EN-1423

2018

Terms of reference for an EU Bee Partnership

European Food Safety Authority (EFSA)

2019

**EUBP
Ombudsman Award**

The EUBP platform

2021

The EU Bee Partnership (EUBP) Prototype Platform: data model description

Noa Simón Delso, Gregor Sušanj and Andrés Salazar Abello

BeeLife European Beekeeping Coordination, Louvain la Neuve, Belgium

bee-ppp.eu; Youtube link

2022-24

Developing an integrative and operational platform for pollinator health data

Conceptual design

One-stop-shop - unique information platform for industry & institutions

Collaborative central knowledge base, accessible to stakeholders

Customer-oriented in development and maintenance

Data providers

Research & Development	Public authorities and agencies	Field practitioners	Industry operators
• Scientific publications • Research networks and projects • Citizen science initiatives	• EU institutions • National Governments & health agencies	• Beekeepers • Farmers • veterinarians	• Phytosanitary & pharmaceutical industry • Hi tech industry (connected hives)

ApisRAM

DATA MODELS & DATABASE

(Semi)automatic recording (connected hives with digital tools/app/sensors)

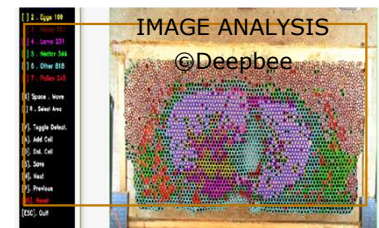**EXTERNAL SCIENTIFIC REPORT**

AARHUS UNIVERSITY

APPROVED: 4 February 2022

doi:10.2903/sp.efsa.2022.EN-7184

*Apis*RAM Formal Model Description

Xiaodong Duan[1], David Wallis[1], Fani Hatjina[2], Noa Simon-Delso[3], Annette Bruun Jensen[4], and Christopher John Topping[1]

IMAGE ANALYSIS
©Deepbee

Scale

ApisRAM 1.0

EXTERNAL SCIENTIFIC REPORT

AARHUS UNIVERSITY
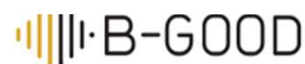
APPROVED: 24 June 2021

doi:10.2903/sp.efsa.2021.EN-6695

Research project on field data collection for honey bee colony model evaluation

Dupont Yoko L[1], Capela Nuno[2], Kryger Per[1], Alves Joana[2], Axelsen Jørgen A[1], Balslev Mette G[1], Bruus Marianne[1], Castro Silvia[2], Frederiksen Julie[1], Groom Geoff B[1], Jeppesen Annika S[1],

B-GOOD

Giving beekeeping advice by computational assisted decision making (~8M€)

PoshBee

Internal Pan-EU assessment, monitoring and mitigation of stressors on the health of bees (~10M€)

9

Model implementation

HONEY BEE MODEL: APISRAM

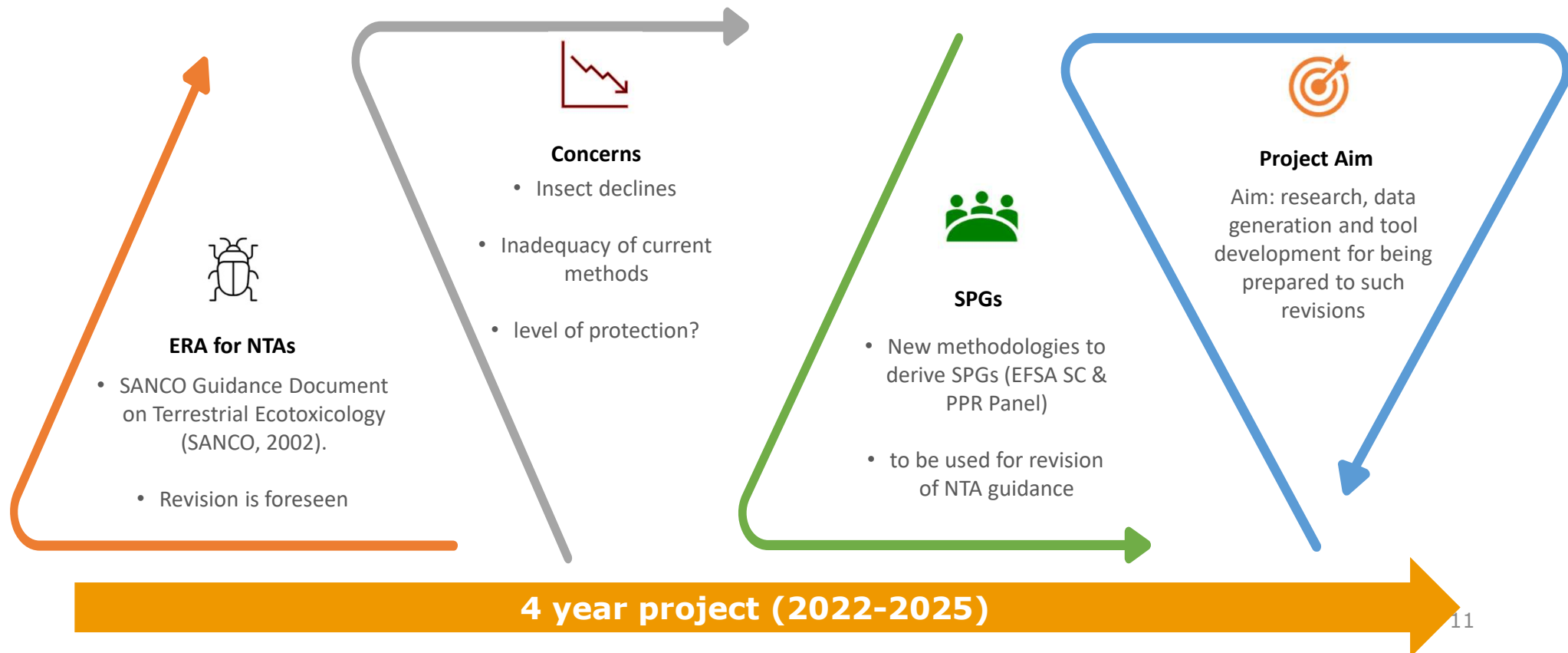| DEC 2022	MAY 2023	2025 ...
Version 2	**Version 3**	**Version 4**
Biological agents and thermal modules	Additional landscapes and data on multiple stressor interactions	Cumulative risk assessment, effects from invasive species

B·GOOD

PoshBee

BUMBLE BEE & SOLITARY BEE MODELS

Non-target arthropods (NTAs)

AENEAS: **A**dvancing the **en**vironm**e**ntal risk **as**sessment of non-target arthropods for plant protection products by accounting for the impact on ecosystem services and on the ecological function

ERA for NTAs

- SANCO Guidance Document on Terrestrial Ecotoxicology (SANCO, 2002).

- Revision is foreseen

Concerns

- Insect declines

- Inadequacy of current methods

- level of protection?

SPGs

- New methodologies to derive SPGs (EFSA SC & PPR Panel)

- to be used for revision of NTA guidance

Project Aim

Aim: research, data generation and tool development for being prepared to such revisions

4 year project (2022-2025)

Actions & upcoming activities/projects

Share data on bee/insect pollinators

- Interest in sharing harmonised datasets with EFSA and with the wider community (Zenodo)
- Participate to EUBP Platform workshop on data sharing/standardisation

Use of ApisRAM

- Provide input to the ApisRAM testing phase (workshop with beekeepers, scientists and Risk assessors)
- Receive training on the use of ApisRAM when it is implemented

Monitor bee/insect pollinators

- Promote harmonised data collection in EU (e.g. using MUST-B data models)

Report progress on activities

- EFSA can provide regular updates on EUBP Platform, ApisRAM, NTAs,…

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