

# **Project VESPA VELUTINA: Education, Training and Capacity-Building in the Field of Beekeeping and Civil Defense Services**

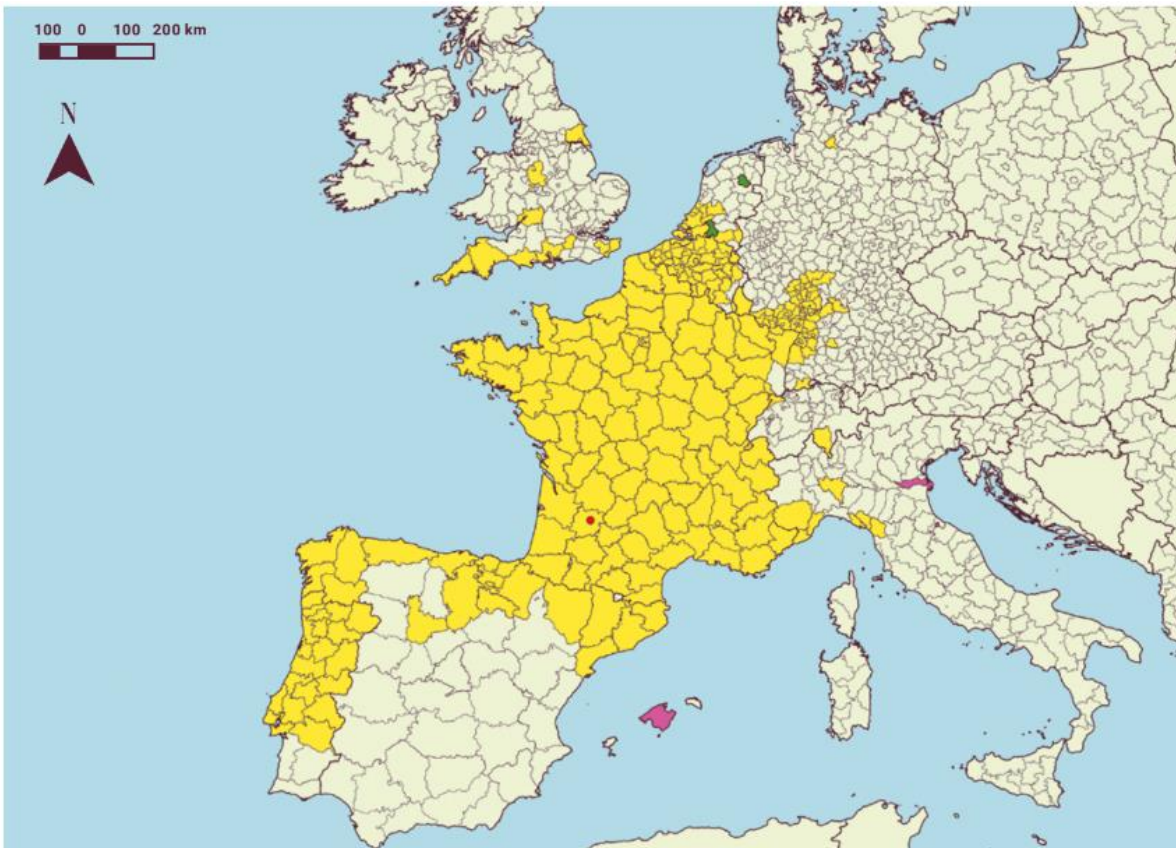
By Dr. Adriana Díaz – ECODESIGN company GmbH, Project partner

ERASMUS+ Grant: 2021-1-SK01-KA220-VET-000033144

*“we help our clients develop and  
market eco-products successfully”*



# Project Goal



Zdroj: © Q. Rome - MNHN - INPN <http://frelonasiatique.mnhn.fr> © EuroGeographics pour les limites administratives

Spread of the *Vespa velutina* (status 26 Jan. 2022).

**Supporting beekeepers and other stakeholders in Austria, Czech Republic and Slovak Republic to prepare for the challenges of the invasive species *Vespa velutina nigrithorax* (Asian hornet).**

**The international consortium develops a knowledge campaign about the Asian hornet, and provides targeted trainings to protect apiaries and civil society.**

# Information campaign

INITIATIVE · CHAPTERS · EVENTS · EXPERTS · CONTACT · PARTNERS · SLOVENČINA · DEUTSCH · FRANÇAIS

FEARSOME PREDATOR OF BEES

## VESPA VELUTINA

Get to know him and be prepared



Co-funded by the  
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of the European Union

Grant: 2021-1-SK01-KA220-VET-000033144.



Access under: <https://blesabee.online/en/home/>

# Understanding the challenge

<https://blesabee.online/en/home/>



Biology of the hornet  
velutina



Measures against the spread of  
the hornet



Information  
for Public

References available in 4 languages

Information for the  
public and various  
stakeholders

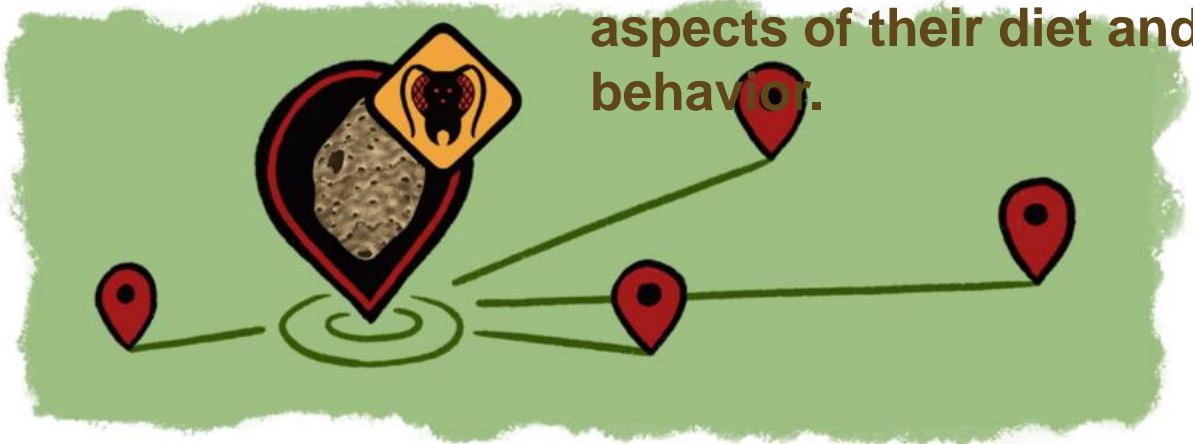
# Chapter 1 is about Biology



Biology of the hornet *Vespa velutina*



Clear and concise information about the life cycle of the Asian hornet *Vespa v.*, including typical location and characteristics of the nests, features that help identify queens and workers, and main aspects of their diet and behavior.





# Chapter 2 is the Technical guide

[https://blesabee.online/app/uploads/2023/04/DE\\_GUIDE\\_BOOK\\_VESPA\\_VELUTINA.pdf](https://blesabee.online/app/uploads/2023/04/DE_GUIDE_BOOK_VESPA_VELUTINA.pdf)



Measures against the spread of  
the hornet



## Technischer Leitfaden zur Überwachung, Kontrolle und Prävention der invasiven asiatischen Hornisse *Vespa velutina* in Europa



AUTOR:INNEN

Adriana Diaz, Sophie Grünewald, Helena Proková, Wolfgang Wimmer

# Chapter 2: Technical guide with Measures



Measures against the spread of  
the hornet

## Chapter1

Biology of  
the *Vespa  
velutina*

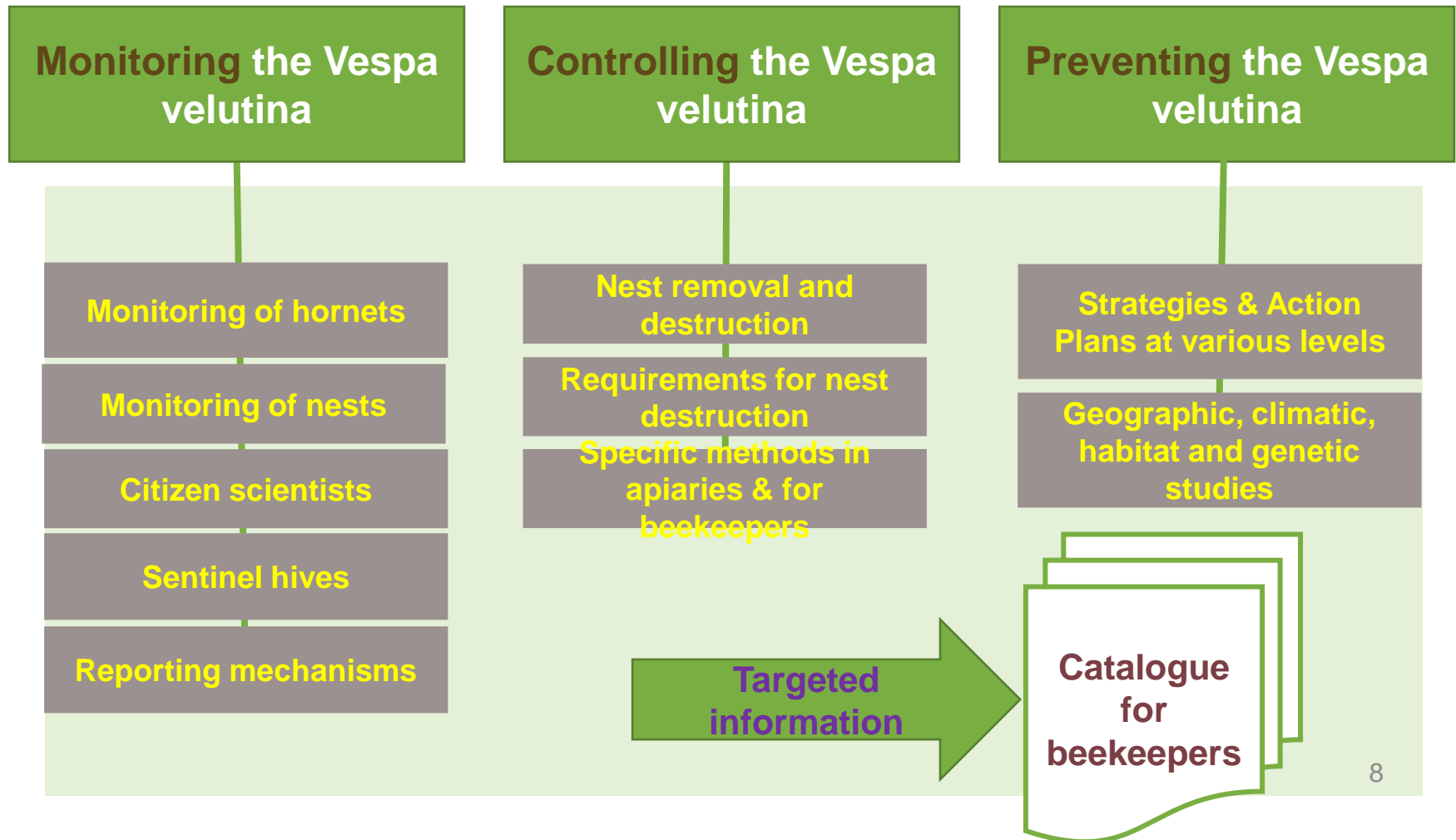
## Chapter 2

Measures  
to **monitor**,  
**control** and  
**prevent** the  
*Vespa  
velutina*

**Catalogue for  
beekeepers**

Measures, strategies and condensed  
information with a practical approach.

# Monitor, Control and Prevention measures





# Monitoring of *Vespa velutina*

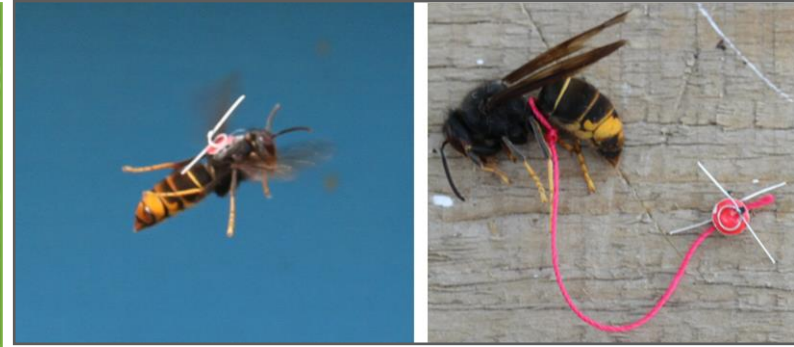
- Monitoring is key to **enable safe control mechanisms**.
- Various **strategies** exist to monitor the *Vespa velutina*, with differing **costs**, **labor intensity**, **effectiveness** and **selectiveness**.
- Easy and *self-made* monitoring **methods** commonly applied are discussed as well, such as observation of hives, traps and telemetry.



Observation of hives.



Bottle traps.



Tracking hornets with a transmitter (Telemetry).

# Choosing monitoring measures

## Costs: Material and staff

Low



High

## Selectiveness

Low



High

## Effectiveness

Low



High

# Measures for Control of *Vespa v.*

Type of measure   Toxicity   Degree of intervention

Chemical	High	Low	Only selective use, for nest destruction or bates
Physical / Mechanical	Low	Low	Nest destruction, trapping of queens and workers, barriers and traps
Biological	Low	Medium	Disrupting reproduction, other natural enemies, parasites and disease vectors
Ecological	Low	Medium	Resistant honeybees, changes in landscape and ecosystem.
Preventive	Low	High	Quarantine and isolation.

*Adapted from Laurino et al., 2019*

# Trapping calendar and selective trap

JAN.	FEB.	MÄRZ.	APR.	MAI.	JUNI.	JULI.	AUG.	SEPT.	OKT.	NOV.	DEZ.
Phase 1											
	Phase 2										
		Phase 3									
					Sommer						
								Aufstellen von Fallen im Herbst			

Denis Jaffré shows this selective Asian hornet trap.

©REUTERS/Manuel Ausloos.

Adapted and translated from MAGRAMA, 2015.





# Measures for Preventing *Vespa v.*

*Vespa velutina* is well established in Europe -  
A **complete eradication is illusory.**

**An integrated approach is needed,**  
combining different strategies and  
stakeholders.

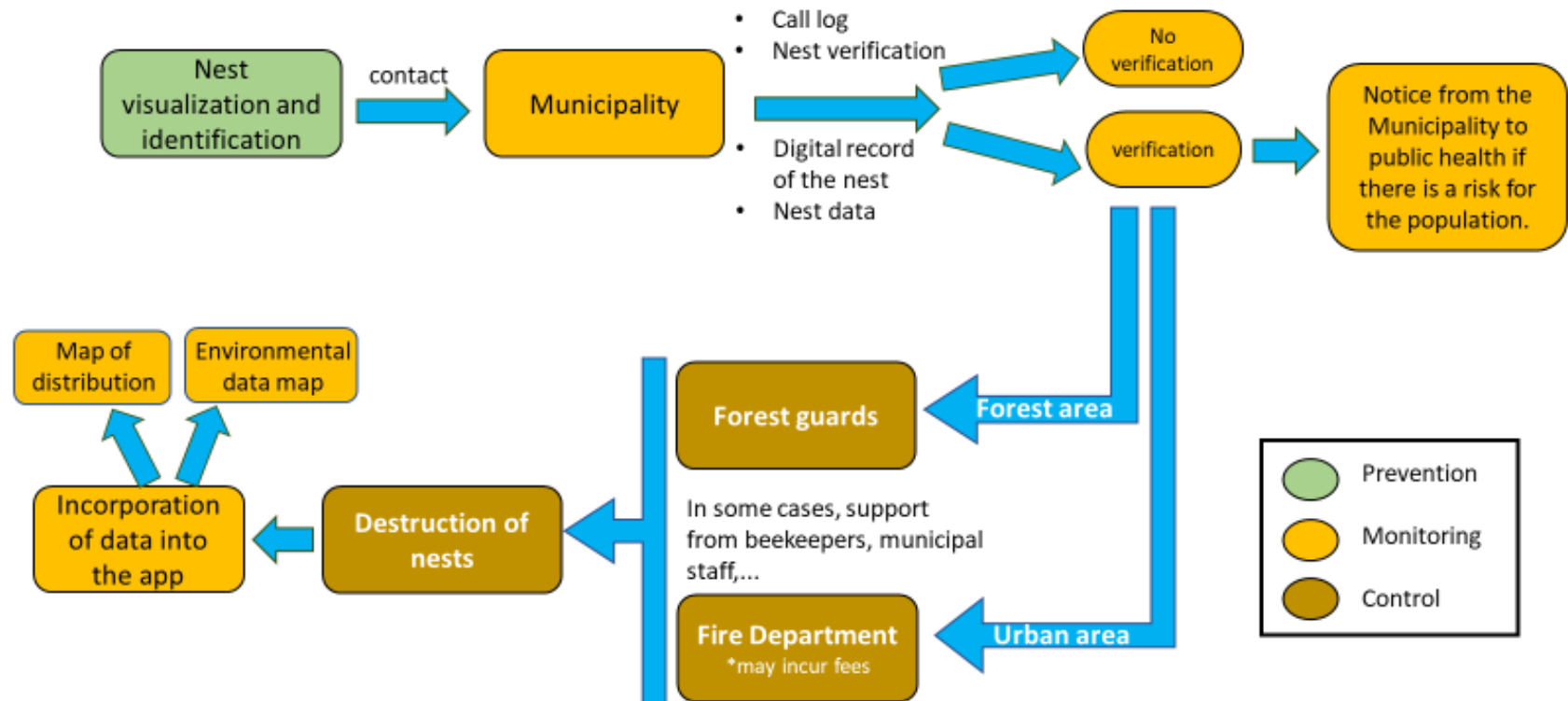
Prevention deals with:

- **Limiting** the expansion and **reducing** the impacts from the *Vespa v.*
- **Effective prevention concepts**, with clear responsibilities and communication.
- **Knowledge, training and financial resources**, e.g., for the effective control of nests, to avoid further spread of the young mated *Vespa velutina* queens.
- **Research** on *Vespa v.*, life cycle, behavior, reproduction & impact on ecosystems.



# Action Plans – Example from Basque Country, Spain

Shows the actions to be taken and the responsible authorities, indicates the path for the generation of data as a basis for updating distribution and environmental maps.

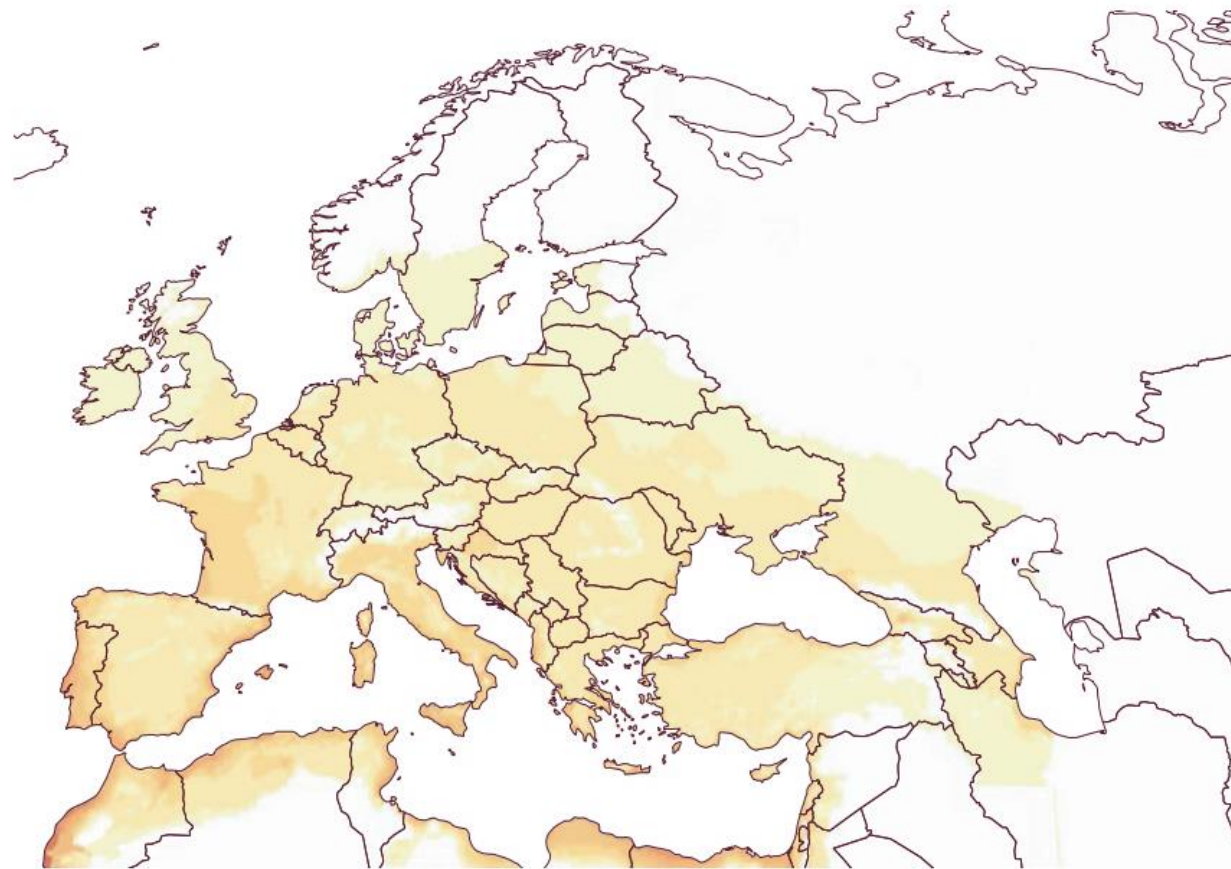


Adapted and translated from [MAGRAMA, 2015](#).



# Understanding the risk as prevention

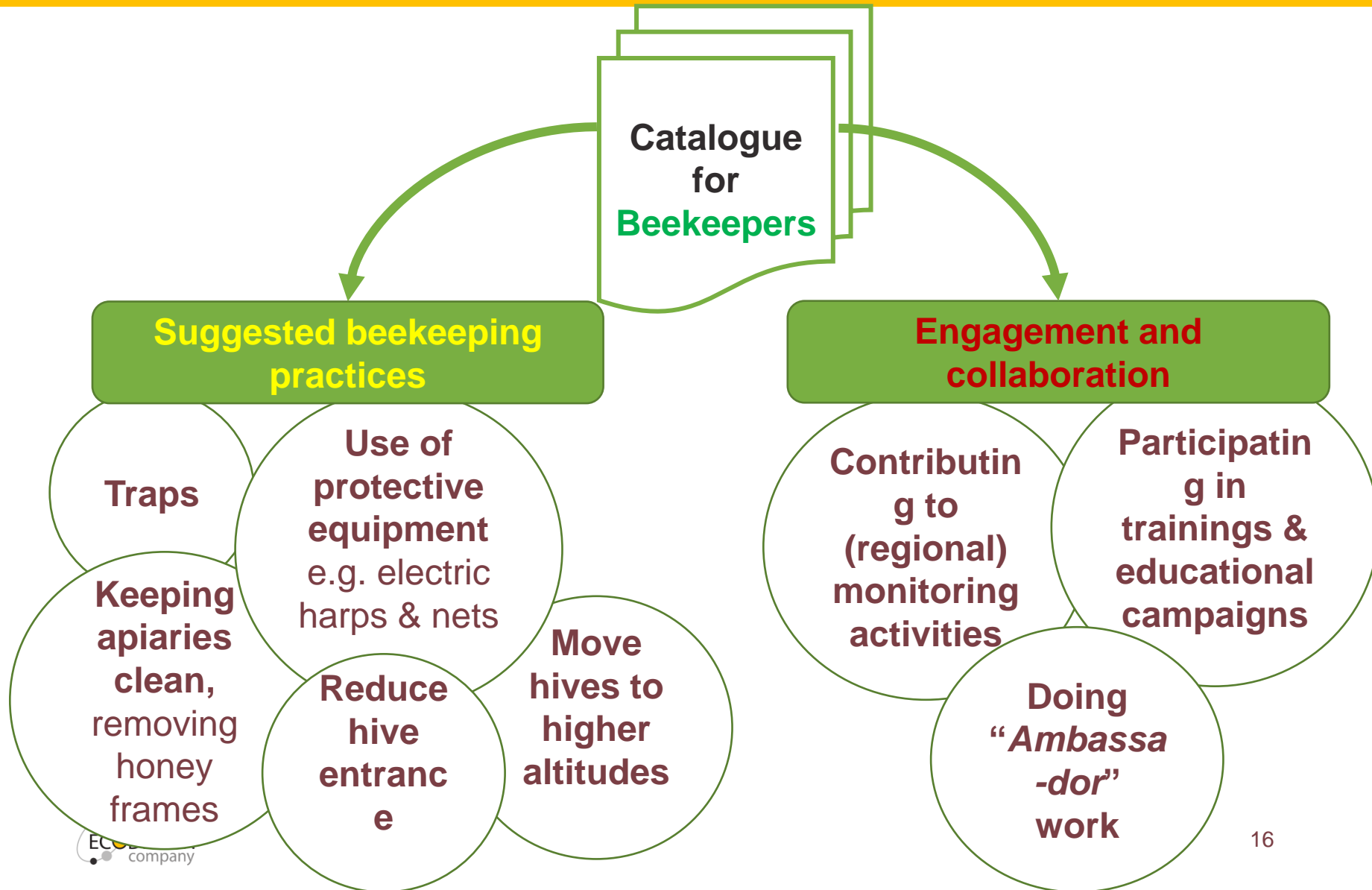
Most research models try to predict the possible *Vespa* v. invasion under favorable natural conditions and environmental factors.



ÖKOLOGISCHER INDEX

0 0-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 90-99

# The Catalogue for Beekeepers



# Examples of nets and electric harps



André Lavignotte, n. d., Núria Roura-Pascual, 2021, Pérez-Granados et al., 2021.






# Implementation of measures during the lifecycle of the *Vespa v.*

## LEGENDE

● Strategische Maßnahmen auf lokaler/ regionaler/ nationaler Ebene

● Kontrollmaßnahmen an Bienenständen

● Bekämpfungsmaßnahmen, wenn angebracht

Schlüsselmaßnahme	JAN.	FEB.	MÄRZ.	APR.	MAI.	JUNI.	JULI.	AUG.	SEPT.	OKT.	NOV.	DEZ.
Engagement und Zusammenarbeit												
Strategien und Aktionspläne												
Entfernung und Zerstörung von Nestern												
Drohnen und künftige Fallen für Königinnen												
Schutznetze und elektrische Harfen												
Fallenstellen für Königinnen												
Stärkung von Bienenvölkern												
PHASE	JAN.	FEB.	MÄRZ.	APR.	MAI.	JUNI.	JULI.	AUG.	SEPT.	OKT.	NOV.	DEZ.
 Überwinterung												
 Nestbau												
 Nestentwicklung												
 Paarungszeit												

# Contact

## Thank you for your interest

**Project partner in *Vespa velutina* project:**

**ECODESIGN company engineering & management consultancy  
GmbH**

Schwindgasse 4/2

1040 Vienna, AUSTRIA

Tel.: +43 1 403561130

[contact@ecodesign-company.com](mailto:contact@ecodesign-company.com)



**Dr. Adriana Díaz**, Project Manager

E-Mail: [diaz@ecodesign-company.com](mailto:diaz@ecodesign-company.com)

Tel.: +43 1 403561133

