SC2 Dissemination Event
Sustainable Food Security

Vmerge :
Emerging viral
vector-borne
diseases

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Vmerge project outline
What are the challenges? Why do they matter?

- Predict, detect and anticipate the risk of vector-borne diseases: **Emerging threat**

- Enhance collaborations between European and African research institutes: **Capacity building**

- Enhance collaborations between research and animal health decision makers: **Mutual interest**

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Emerging viral
vector-borne diseases

Vmerge project outline
What is the approach?

- Development of new diagnostic tools
- Field work to describe, understand, model and predict the transmission of vector-borne diseases
- Material exchange between partners and trainings
- Common workshop between Vmerge partners and Mediterranean animal health network (REMESA)

Vmerge project outline
What is the main objective?

Address the **risk of introduction, emergence and spread** of known - or still unknown - **vector-borne viruses** (VBV) associated with mosquitoes (*Aedes* and *Culex* genera), and *Culicoides* biting midges:

- Improve our <u>understanding</u> of these emerging VBV and their potential for spread throughout northern Africa and Europe;

- Improve epidemiological <u>surveillance</u> strategies and tools for better disease detection.

Vmerge project outline
What are the main objectives?

- To provide **innovations in diagnostic procedures** for more reliable, more cost effective, and quicker identification of emerging VBV

- To improve our **understanding of vector competence** of insect populations in ecosystems at risk of emerging VBV;

- To **model vector-population dynamics and virus transmission** for better assessment of emergence and spread capacities of selected VBV

- To **assess the existing surveillance networks** for emerging VBV and **propose new surveillance strategies**

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Vmerge consortium overview

16 partners, 12 countries
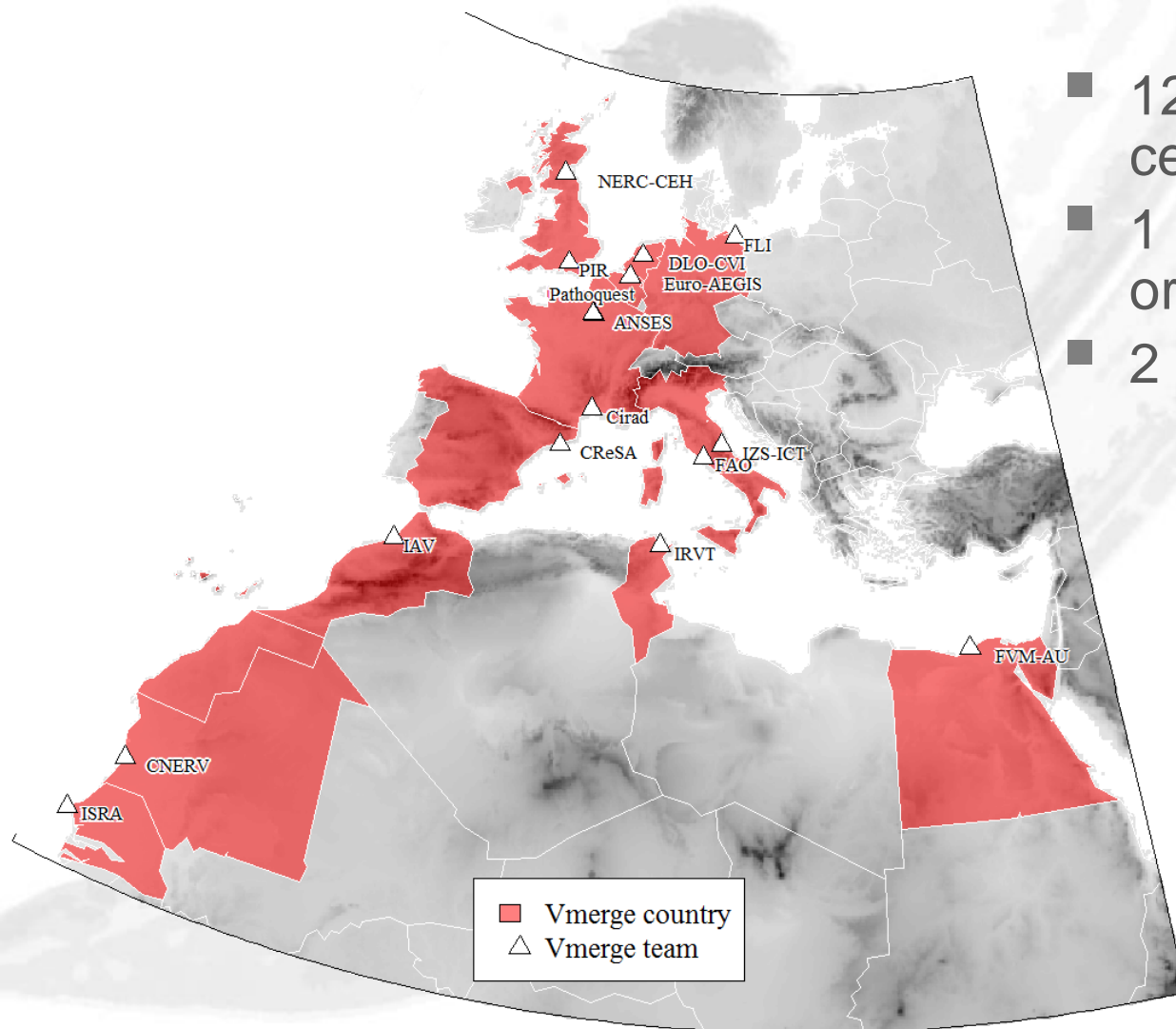
- 12 Research centres
- 1 International organization
- 2 SME

RESEARCH
Project 2013 - 2016

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Project results

UK Netherlands
Belgium
France Germany
Spain Italy
Morocco Tunisia
Mauritania **Egypt**
Senegal

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Vmerge results

- We produced new **DATA** to characterise interactions:
  - between virus and vectors
  - between vector populations/environment/hosts
- Dissemination via publications

Vmerge results

- We produced new **TOOLS**:

  - Molecular and serological tools

  - Software to sample and predict distribution of vectors: VECMAP

  - Models to predict risk of transmission in endemic and potentially epidemic areas

- Dissemination via publications, and technology transfer to partners

Administrator

Field teams
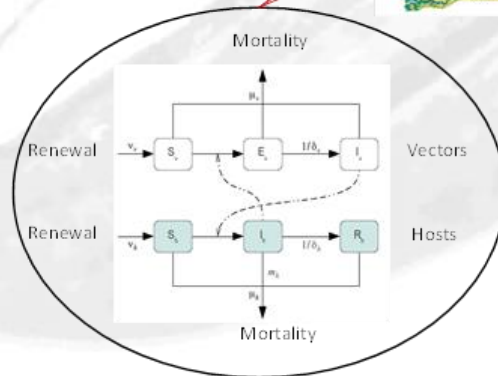
GIS platform

Laboratory

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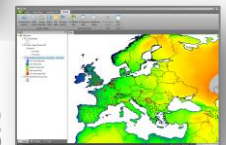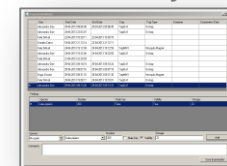
Vmerge results

- We produced **SUPPORT to decision/policy makers**:
    - Information and analysis of the risk of emergence
    - Analysis of the current surveillance system
    - Guidelines for surveillance

- Dissemination via regular newsletters, and common workshops Vmerge/Animal health networks

Impact and Lessons learnt

UK Netherlands
Belgium
France Germany
Spain Italy
Morocco Tunisia
Mauritania Egypt
Senegal

Impact

- **Better understanding** on how **vector-borne diseases** emerge, are introduced and spread

- **Increase capacities of national laboratory** to detect the diseases

- **Disseminate tools** to better predict the risk of transmission

- **Increase the level of preparedness** of countries against the vector-borne diseases

Impact

- **Enhance interactions** between research institutes and animal health services:
  - Join Vmerge/REMESA workshops during the project
  - Join meeting Vmerge/Animal health networks in Mediterranean basin and West and Central Africa for the Vmerge final meeting
  - Regional policy meeting between Vmerge and Chief veterinary officers

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Lessons learnt

- Enhancing collaborations between north/southern research institutes and between research/surveillance-policy actors

- Is facilitated by:
  - Long history of collaborations between partners
  - Many research institutes involved have long history of interactions with animal health decision makers

- Is made difficult by:
  - Different expectations between partners (high-level publications *versus* capacity building)
  - Different time scales, different interaction cultures between research, risk management and policy

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Thank you

Francis Schaffner

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