

# Overview of the newly established EuFMDiS Modeling Center

Beate Conrady<sup>1</sup>, Graeme Garner<sup>2</sup>, Zorana Mehmedbasic<sup>2</sup>, Richard Bradhurst<sup>3</sup>

<sup>1</sup> Department of Veterinary and Animal Sciences, University of Copenhagen, Denmark

<sup>2</sup> European Commission for the Control of Foot-and-Mouth Disease (EuFMD), FAO, Rome, Italy

<sup>3</sup> Centre of Excellence for Biosecurity Risk Analysis (CEBRA), School of BioSciences, The University of Melbourne, Victoria 3010, Australia

## Background

The EuFMDiS Modelling Centre helps Member Nations integrate the **European Foot-and-Mouth Disease Spread Model (EuFMDiS)** into contingency planning and improve emergency response. The expert team will work with interested countries and can run simulations for **individual or multiple countries (transboundary spread included)**, including cross-border scenarios. The Centre also offers training and collaborates with universities to enhance the model and adapt it to new diseases.

## Preparedness and Control

The model **tests prevention and control strategies** e.g., movement restrictions and vaccination plans to manage outbreaks, while also **evaluating resource availability** and addressing diagnostic and vaccine supply issues. EuFMD is adding new features, such as **biosecurity, wildlife spillover, and post-outbreak management**. The model has been extended to **other diseases**, including classical swine fever (Spain), Peste des petits ruminants (PPR) (Bulgaria), and Sheep and goat pox (Bulgaria and Spain).

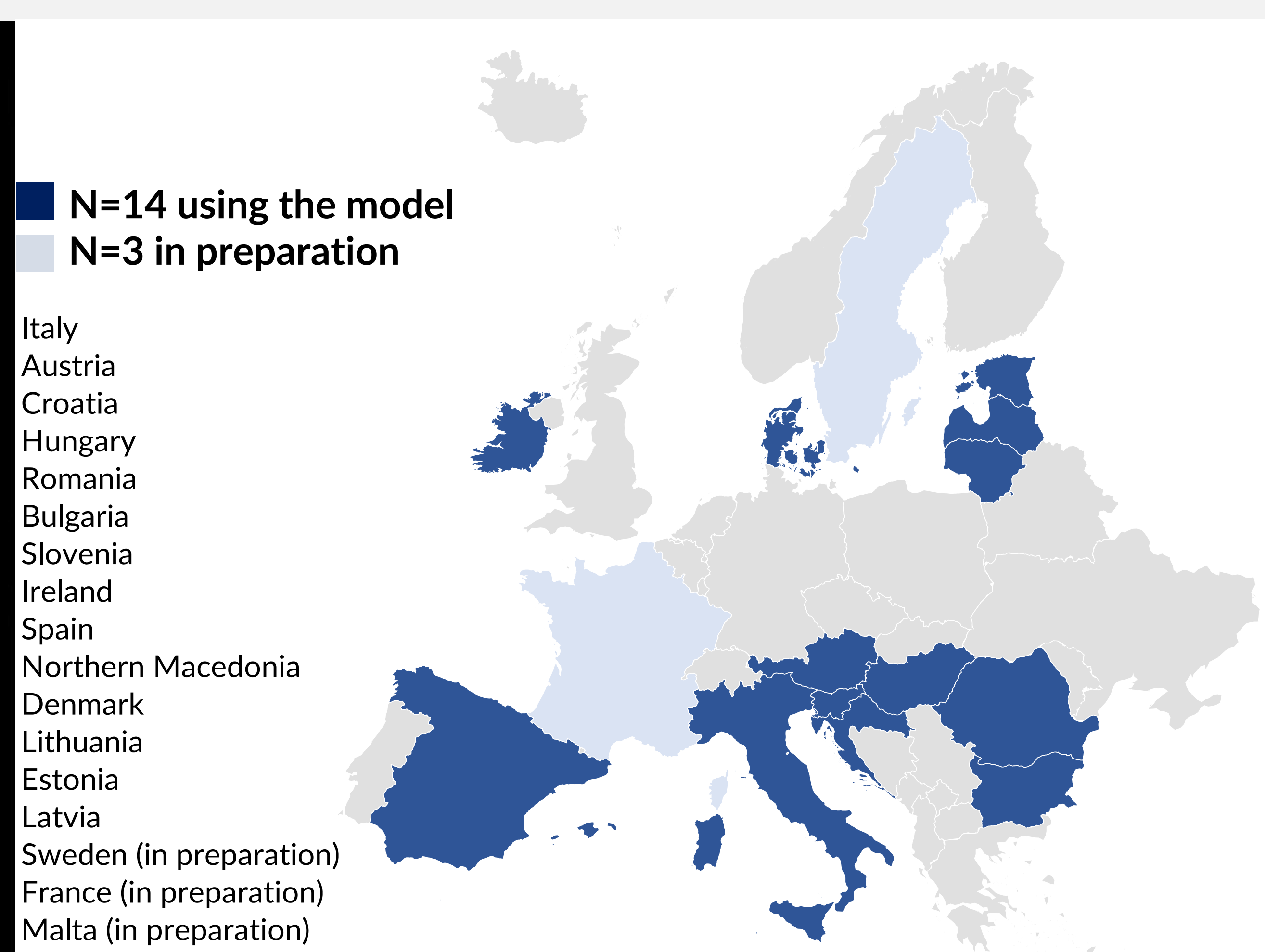
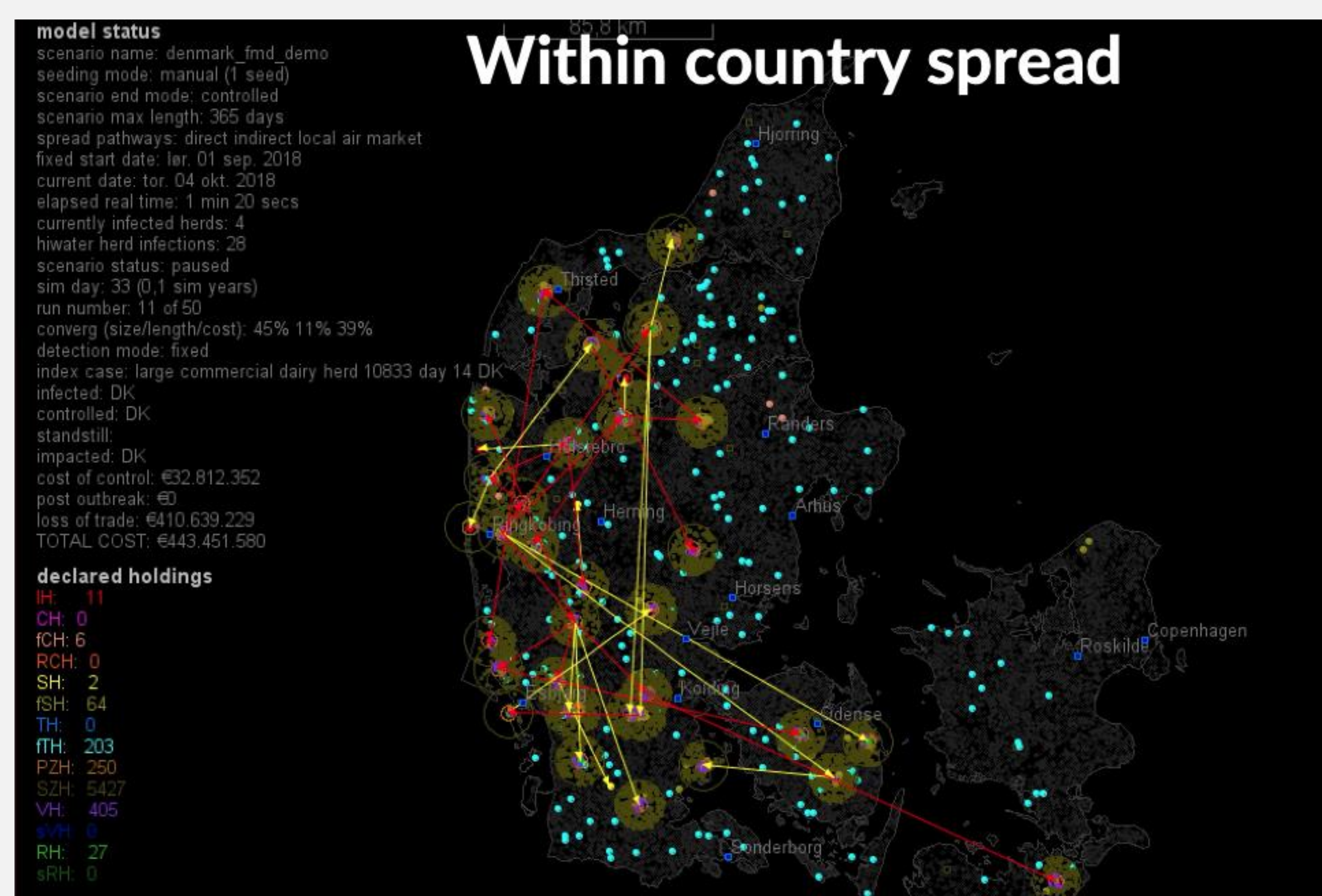
## Model outcomes

### Selected epidemiological outcomes

- Number of farms infected
- Number of farms depopulated
- Number of farms vaccinated (when used)
- Epidemic control duration (days)
- End of post-outbreak management (days)
- Number of herds clinically inspected
- Number of vaccinated and unvaccinated herds tested
- Number of (vaccinated) animals culled
- Mean spatial distribution of disease spread (km)
- Proportion of the involved transmission pathways
- How frequently enforcement and trigger setting initiated mitigation strategies

### Selected economic outcomes

- Total operation costs e.g., surveillance, culling, disposal, disinfection, vaccination, control centres, compensation
- Total post-outbreak management costs for
  - Surveillance
  - Culling (applicable for suppressive vaccination)
  - Disposal (applicable for suppressive vaccination)
  - Compensation (applicable for suppressive vaccination)
- Days out of market
- How often resource constraints occurred during simulation
- Total economic costs (direct and indirect)



## How to become member?

**Contact:** [eufmdis@fao.org](mailto:eufmdis@fao.org)

**Membership:** Free

**Requirement:** Data to set up the model (e.g., livestock movement, farm locations, human resources)

**Members:** Receive support to simulate scenarios (if needed) or adapt the model

**Workshops:** 2 times per year

### Funding:

This work has received funding from FAO under GCP/GLO/1217/EC - EuFMD Phase VI (2023-2027) with the PO Number: 370117

