STOC free

A **S**urveillance analysis **T**ool for **O**utcome-based **C**omparison of the confidence of **free**dom generated by control or eradication programmes

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Relevance

Examples of cattle trade related introduction of diseases:

- BVDV in Denmark associated with import from the Netherlands

- Bovine TB to Belgium and the Netherlands from calves imported from UK and Ireland

- Bovine besnoitiosis into Ireland through import of apparently healthy animals

- Etc..

Context

- Risk of transmission of diseases through cattle movements

- EU countries have:
  - Diverse control/eradication programmes (even more so with new Animal Health Law)
  - Different definitions of "free" status

- Therefore, outcomes of programmes cannot be compared and the degree of certainty about freedom of infection varies

- **We need:** standardized measures to enhance safety of trade

Aim of the project

Develop and validate a new tool:

STOC free

that enables a **transparent and standardized comparison of confidence of freedom** for control programmes.

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Development

Answering the question

When trading an animal: does it pose a risk of introducing an infection into the destination herd ?

p(freedom| information)

➢ **What is the probability and uncertainty that an animal is free of infection when leaving the farm given available information ?**

Outcome: framework

STOC free DATA   STOC free MODEL   OUTPUT

Challenges:

- Easy to use by stakeholders

- Heterogeneous inputs, uniform output

- Output on different levels of aggregation

- BVDV as case disease but adaptable to multiple diseases in multiple species

STOC free DATA

A data collection tool

1. Description of control programmes (CPs) for BVDV

2. Define risk factors for introduction and delayed detection

   – expert opinion,

   – literature review and meta analyses

3. Create an expanded questionnaire

4. Transform questionnaire into a data-collection tool for STOC free model
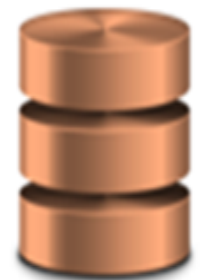
Interface:

STOC free DATA

STOC free MODEL

- Includes risk of <u>introduction</u> and <u>delayed detection</u>

- Assumes a homogeneous biological system of a disease

- Deals with heterogeneous sources of input information

- Provide the <u>probability</u> and associated <u>uncertainty</u> that an animal from a free herd/ territory is truly free

- Bayesian network using directed acyclic graphs (DAGs)
  - Allows to connect various pieces of information
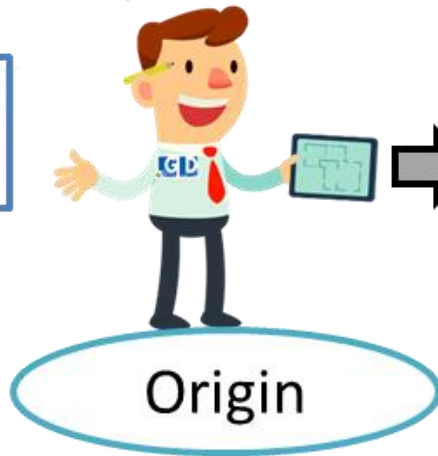 - Is very flexible in its way to structure information and to remove correlation.

Field application and decision maker uptake

Ultimate goal

STOC free will be used by every country or region to evaluate probability of freedom of traded animals for any disease

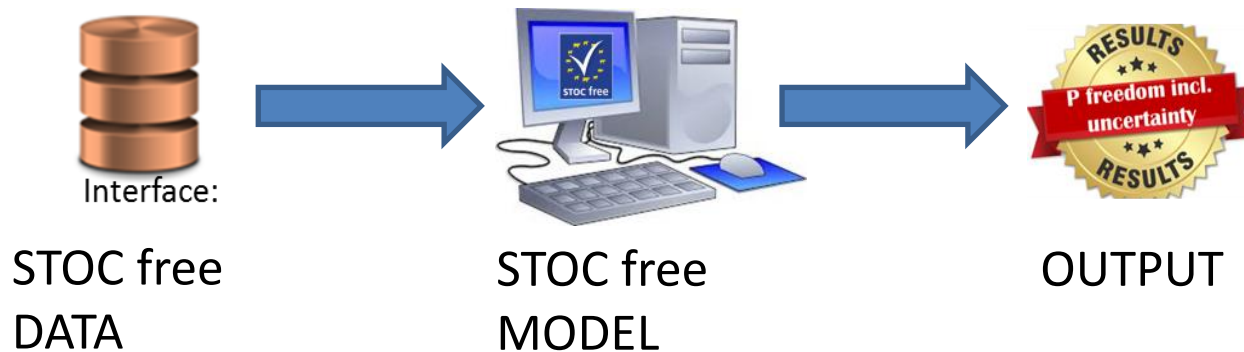**COST Action SOUND-control for sharing and disseminating knowledge with ~24 EU countries.**

Impact

The use of the STOC free framework will stimulate:

– Safe trade

– Improved biosecurity on farms

– Economic benefits due to reduced risk in a flexible trade context

Interface:

STOC free
DATA

STOC free
MODEL

OUTPUT

Questions for you!

- Who can be end user of the framework?

- How to assure objectiveness?

- How to maximise uptake and use?

Thank you for your attention

http://www.stocfree.eu/

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