



# FLURISK

**Development of a risk assessment methodological framework for animal influenza strains**

**Franck C.J. Berthe  
Animal and Plant Health Unit**

- Emergence and worldwide spread of swine-origin A(H1N1)pdm09 virus → highlighted GAPS in pandemic preparedness; **November 2009**, Commission request for **scientific opinions** on:
  - the animal health implications of the pandemic H1N1 virus, published October 4, 2010
    - <http://www.efsa.europa.eu/en/efsajournal/pub/1770.htm>
  - the possibility of future monitoring for emergence of influenza viruses with a pandemic potential from the animal reservoir, published March 17, 2011
    - <http://www.efsa.europa.eu/en/efsajournal/pub/2109.htm>
- February 2011 (Castelbrando), **concept of a RAF** exposed by Nancy Cox

- An **influenza risk assessment framework (IRAF)** for categorization of animal influenza viruses
  - A risk-based tool that could be used to evaluate monitoring results for influenza viruses in animals
  - Ranking animal viruses in their potential to cross the species barrier and cause human infection
  - Development and validation of an influenza risk assessment framework (IRAF) for the spatial opportunity of animal influenza A strains to cross the species barrier and cause human infection

# The RAF is NOT

- ...intended to be a prediction tool (i.e. the highest scoring virus is not to be interpreted as the next pandemic virus) but.....
- .... is intended to provide a documented and systematic approach for identifying viruses with pandemic potential by considering all known relevant risk factors – and
- .... to inform the decision-making process of identifying and controlling animal viruses that pose most threat to humans, from a global perspective.

- What is the **current knowledge** on the influenza virus etiology and epidemiology in pigs, birds and other animals (i.e. cats, dogs, horses)?
- What are the scientific community and institutional stakeholders doing in terms of **influenza virus surveillance, monitoring and control**?
- What are the **scientific gaps** still present to be addressed?
- What are the **characteristics which an animal influenza A virus must possess to be potentially pandemic**?
- How can we **grade the pandemic risk** posed by a given animal influenza A virus?

# Project consortium

- Istituto Zooprofilattico Sperimentale delle Venezie (**IZS**Ve), IT (coord.)
- Animal Health and Veterinary Laboratories Agency (**AHVLA**), UK
- Royal Veterinary College (**RVC**), London, UK
- National Institute of Public Health and the Environment (**RIVM**), ND
- Institut Pasteur (**IP**), FR
- University of Ghent (**UGhent**), BE

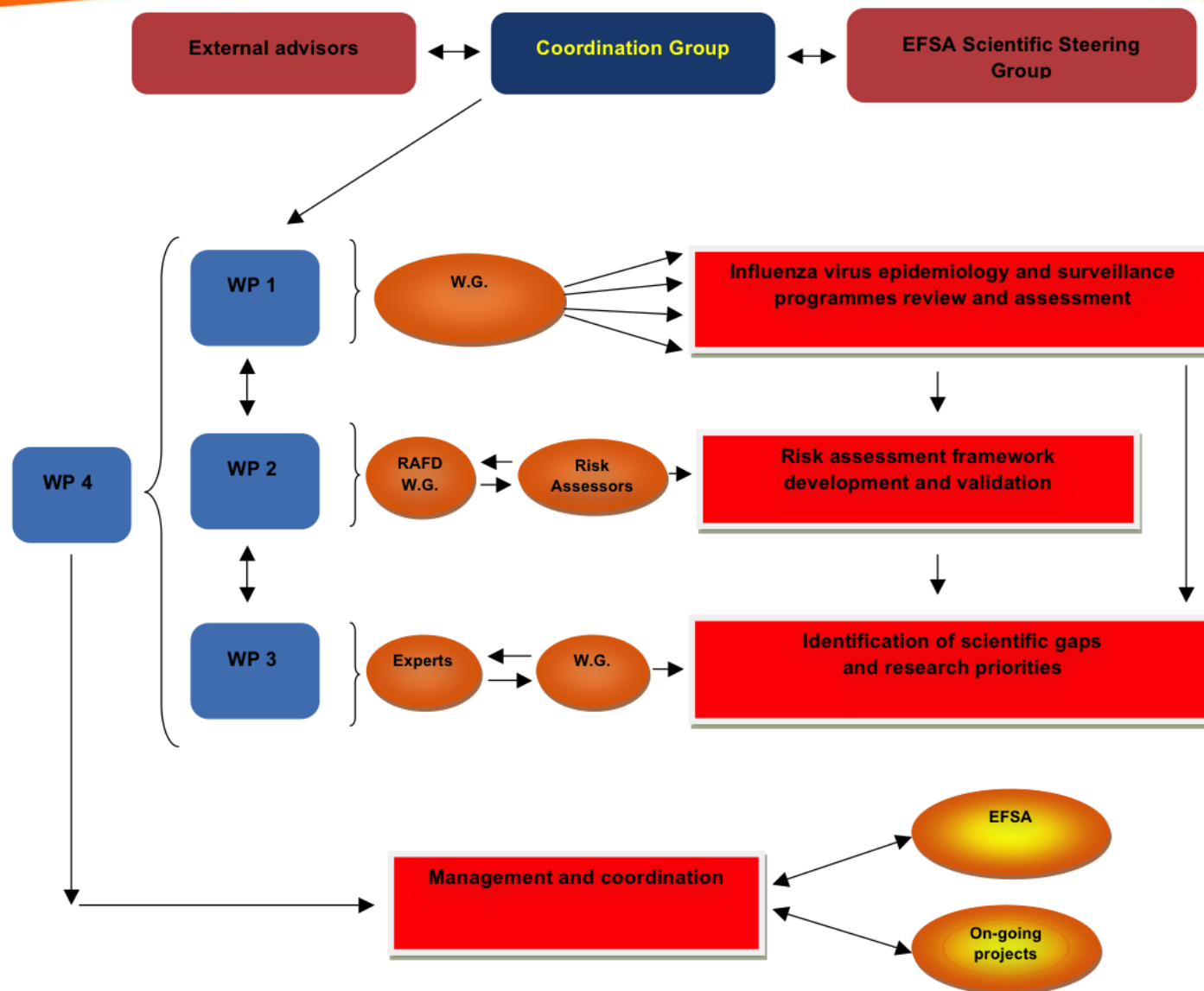
Two external consulting partners:

- Food and Agriculture Organization of the United Nations (**FAO**), Rome
- Center of Disease Control (**CDC**), Atlanta

Experts from **ECDC**, **OIE**, **WHO** and **OFFLU** are being invited to take part in relevant meetings and activities of the project as external observers and advisors.

Project period January 2012 – October 2013

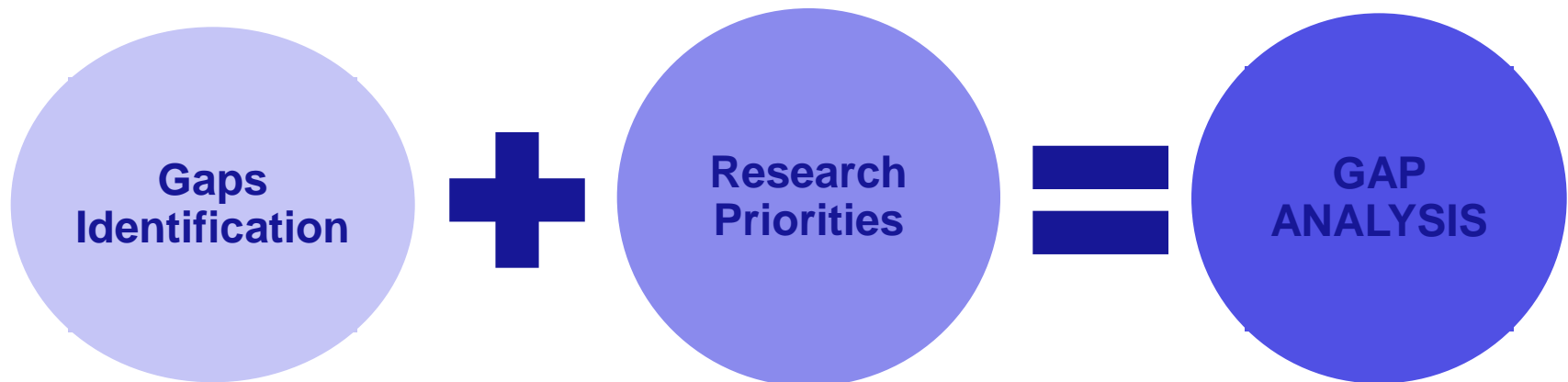
# Project structure



- **Review** current monitoring of the influenza virus, epidemiology and gene pool in pigs, birds and other animals and humans
  - Epidemiology
  - Monitoring
  - Risk factors for species jump
  - Evidence for human infections with animal influenza viruses
- **Develop** a risk assessment framework to evaluate the pandemic potential of influenza viruses
  - Develop an application/interface for modelling the pandemic potential of influenza viruses
- **Identify** relevant gaps in monitoring of influenza viruses in animals and humans, where data would be needed for the RA framework, and constraints of data sharing



- 1) Identification of **gaps** (from WP1 and WP2)
- 2) Recommendation of future **research priorities**



- Better monitoring of swine influenza strains
- Virus suitability score very uncertain
- Animal – human interaction difficult to quantify
- Human infections with animal-origin influenza viruses not recorded systematically

- Publish the final report from FluRisk on line
  - <http://www.efsa.europa.eu/en/panels/ahaw.htm>
- Road-test the FluRisk tool, identify a suitable and sustainable environment for its use by the global community
- Continue discussion between animal health and public health on how to improve monitoring of animal influenza