



**UNDERSTANDING THE CONNECTIVITY
AND DYNAMICS OF AVIAN INFLUENZA**

D6.6 Dissemination plan

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EXECUTIVE SUMMARY

The **KAPPA-FLU** exploitation and dissemination plan incorporates detailed strategies, defining how research results will be implemented and how they will have impact on the market, on future developments, on stakeholder and on policy making. The Plan for the Exploitation and Dissemination of **KAPPA-FLU** Results is a document, which summarizes the beneficiaries' strategy and concrete actions related to the protection, dissemination and exploitation of the project results. The Plan will be continuously developed during the duration of the project and regularly updated. Necessary updates will be included in the reports to the European Commission.

The results of the different research activities in **KAPPA-FLU** can be categorised into direct and indirect results. Direct results encompass the results that determine factors such as the dynamics of avian influenza, the evolution of HPAI H5 viruses in wild birds and commercial poultry using genetic data from viruses detected. The same holds for e.g., data on antigenic properties. These results will directly strengthen the evidence-based support for the development of relevant policy and other measures for adequate prevention and control and possible vaccine strategies for AIV. Target groups for the dissemination and exploitation will be scientists, field practitioners, industry representatives, farmers, ornithologists, wildlife conservation societies, animal welfare organisations and policymakers including EU/WOAH/FAO/WHO.

MEANS FOR DISSEMINATION AND EXPLOITATION OF KAPPA-FLU'S RESULTS

According to the Grant Agreement, all beneficiaries will 'disseminate' their results by disclosing them to the public by appropriate means in a timely fashion. **All means for dissemination and exploitation must include a reference to KAPPA-FLU and EU funding. All beneficiaries have been informed on the preferred wording and use of the logo.**

WP6 Task 6.1 "Dissemination & exploitation & communication" combines overall strategies to organize a consultation process with a Multi-Actor Panel to ensure the engagement of important stakeholders and end-users, to implement a strategic plan for the dissemination and exploitation of results, to manage research data collected during the project (e.g. sequence data and strain characterization data) and to establish communication measures to promote the project and its findings.

The following sections describe the measures for dissemination and exploitation.

CREATING A VISUAL IDENTITY FOR KAPPA-FLU

KAPPA-FLU has developed a 'Corporate Identity' that is applied in all internal and external communications of KAPPA-FLU, in compliance with the Grant Agreement. It is also part of this deliverable report. The **KAPPA-FLU** identity will include a logo, standard color schemes and type fonts, processed into templates for periodic newsletters, poster presentations, presentation slides newsletters and flyers. This includes appropriate acknowledgement of EU funding in all publications and presentation connected to KAPPA-FLU.



ESTABLISHING AN ONLINE PRESENCE FOR KAPPA-FLU

KAPPA-FLU has developed a public website (<https://KAPPA-FLU.fli.de>), where background information on KAPPA-FLU, the consortium partners and the results obtained is publicly available for interested parties. Selected social media will be included to raise public awareness about **KAPPA-FLU** and its benefit to public and veterinary health in Europe and beyond.

KAPPA-FLU will also strive to link its public websites to other relevant websites/portals (e.g. partner webpages or other related projects like VEO).

All materials created for KAPPA-FLU, such as press releases, leaflets, presentation templates, etc. will include a reference to the online presence.

PUBLISHING OF KAPPA-FLU'S RESEARCH DATA IN PEER-REVIEWED SCIENTIFIC JOURNALS

According to the Grant Agreement all investigators in **KAPPA-FLU** are held to actively seek to publish their results in peer-reviewed scientific journals. According to the so called "Gold Model" all investigators will try to publish their results in open-access journals. If publication in open-access journals is not possible for whatever reasons, publications will be made available via the **KAPPA-FLU** website (<https://KAPPA-FLU.fli.de/de/ressources/library/>), or the repositories of participating universities and institutes, respecting any embargo periods of the respective journal ("Green Model").

In case of breakthrough publications, collaboration with press offices of the respective partners will be sought to evaluate the potential for and realization of a press release, to be disseminated by the partner press office for pick-up of the newsworthy item by relevant national or international press agencies.

In all cases the researchers acknowledge **KAPPA-FLU** and the support of the European Commission, in compliance with the Grant Agreement.

PRESENTATION AT RELEVANT NATIONAL AND INTERNATIONAL CONFERENCES, SYMPOSIA AND WORKSHOPS

KAPPA-FLU's lead investigators are well embedded in numerous professional societies, national and global networks and advisory boards. They are involved in the planning and organization of scientific events, are regularly invited as keynote speakers, inform decision makers in politics and industry and report the research results to the public. As part of this work, national and international conferences, seminars, workshops, and symposia should serve as a platform for dissemination of the project results to other scientists, stakeholders and the public. These activities will help to spread the relevant results of **KAPPA-FLU**.

INFORMATION OF SELECTED STAKEHOLDERS

Relevant key stakeholders will be identified and the list will be updated regularly. These stakeholders will be part of the dissemination activities of **KAPPA-FLU**. This will be added to the information of the public as the ultimate recipients of **KAPPA-FLU**.



A flyer containing information on news within **KAPPA-FLU** but also on the current situation in the field of avian influenza will be sent out regularly to inform all participants and the key stakeholders.

RESULTS EXPECTED FROM KAPPA-FLU

The results of the different research activities in **KAPPA-FLU** can be categorised into direct and indirect results. Direct results encompass the results that determine factors such as the dynamics of avian influenza, the evolution of HPAI H5 viruses in wild birds and commercial poultry using genetic data from viruses detected. The same holds for e.g., data on antigenic properties. These results will directly strengthen the evidence-based support for the development of relevant policy and other measures for adequate prevention and control and possible vaccine strategies for AIV. Target groups for the dissemination and exploitation will be scientists, field practitioners, industry representatives, farmers, ornithologists, wildlife conservation societies, animal welfare organisations and policymakers including EU/WOAH/FAO/WHO.

Direct results:

1. Surveillance data and genomic datasets and information on the evolution of AIV in the wild bird reservoir:
 - a. Knowledge on the evolution of HPAI H5Nx viruses of clade 2.3.4.4b in wild birds and various spill-over hosts: We will determine critical aspects of the ecology, environment, age structure and migration patterns of key vector species. With the help of mathematical models, this knowledge will result in effective and more targeted temporal and geographical surveillance strategies and risk analyses.
 - b. Knowledge on the adaptation of contemporary HPAI H5Nx viruses to wild birds and the identification of drivers for viral evolution by reassortment and genetic mutations that result in increased fitness with tracking of adaptive changes.
2. Genomic datasets and information about the evolution of AIV in commercial bird populations:
 - a. We will link surveillance data with genetic analyses to characterise virus evolution and to understand the role of LPAI and HPAI virus circulation on reassortment events. We will characterise selected HPAI H5 strains in poultry to gain knowledge about e.g., the minimum infective dose and the virulence of different strains for chickens, turkeys, ducks, and other domestic bird species.
3. Genomic information on virus adaptation to mammalian species that link to zoonotic risk:
 - a. We will gain new knowledge and data on the number of spill-over infections in terrestrial and semi-aquatic carnivores. We will further analyse *in vivo* and *in vitro* effects of observed key mutations in HPAI H5 to better assess the zoonotic risk factors and general public health risks of circulating HPAI H5 strains/genotypes.
4. Genetic and antigenic data will enable a better understanding of correlates of protection:
 - a. Outputs on the antigenic properties of prototype and contemporary H5Nx viruses circulating in Europe and at a global level will feed into OFFLU (FAO/WOAH) and WHO activities for veterinary and pandemic vaccines, also in relation to immune escape.
5. Prevention and control:
 - a. Results generated in **KAPPA-FLU** will help to understand the overall risks of HPAI GsGd lineage viruses on the agro-ecosystems and identification of costs and benefits of prevention and control strategies, ranging from surveillance and biosecurity measures to vaccination.



Indirect results:

1. Virus-wild-bird interface:
 - a. We will track bird migration and link this to environmental conditions. Valuable knowledge is expected by whole-genome sequencing, phylogenetic analyses, and identification of adaptive mutations, in addition to mathematical modelling and clade specific serology.
2. Rapid high-throughput characterisation:
 - a. We will exploit the established *ex vivo* and *in vitro* models, including organoid-derived cells and tissues, for rapid high throughput in depth characterisation of key viral traits associated with increased risk to poultry, humans and other mammals aligned with classical animal model studies.
3. Genotype-phenotype correlation:
 - a. We will identify new virus strains and reassortants and assess biological traits conferred by virus mutations or different genotypes using reverse genetic technologies, in a timely fashion.
4. Risk assessment:
 - a. We will develop tools for real-time assessment of the risks of HPAI virus incursion, spread and endemicity.
 - b. We will identify 2.3.4.4b clade-specific risk elements and cost-effective mitigation strategies considering a potential shift in policy focus from culling to vaccination.

KAPPA-FLU will generate results which are of key importance to a broad range of actors involved in the prevention and control of AIV and particularly HPAI H5 outbreaks and the promotion of animal health and welfare, as well as to public health and the general public. The main actors include:

1. Poultry production industry, including poultry production companies, farmers, and international associations representing the industry (e.g., European Live Poultry and Hatching Egg Association, Association of Poultry Processors and Poultry Trade in the EU)
2. Research institutes and their individual researchers (including, but not limited to, the areas of virology, epidemiology, molecular biology, pathology, migration ecology, ornithology, risk assessment and modelling, animal, and human health policy analysis)
3. International public and animal health and food safety authorities (e.g., FAO, EFSA, WHO, ECDC, WOAH, OFFLU), and (inter)national NGOs (e.g., WWF, BTO/RSPB in the UK, SOVON in NL, etc.)
4. Vaccine industry for improved novel HPAI vaccines
5. National governments and international policy-making authorities

General Dissemination and exploitation plan KAPPA-FLU

Target audience	Communication tool/ dissemination activity
- General public and interest groups	- Project website - Social media - Press releases - Public engagement events
- Scientific community	- Publications in open access high-impact peer reviewed journals - Presentation at conferences - Social media - Electronic newsletter
- Policymakers	- Targeted outreach by reference entities in the consortium - Electronic newsletter
- Business operators and veterinary services	- Targeted outreach by lead investigators - Press releases and publication in relevant media, e.g. agricultural publications, national veterinary bulletins, etc.) - Social media - Electronic newsletter



KAPPA-FLU's exploitation approach combines a strategy for wide spread dissemination of the results based on stakeholder involvement and open access publication. The knowledge and data generated in **KAPPA-FLU** should be translated into relevant policy and other measures for adequate prevention and control strategies of AIV, which should be adopted and applied by the envisaged stakeholders and end-users across animal health, food safety and agri-food sectors. **KAPPA-FLU** is establishing a Multi-Actor Panel to ensure the engagement of important stakeholders. Their involvement will not only provide expert opinions on the key questions on AIV that **KAPPA-FLU** addresses, but will also establish an open and direct dialogue with and amongst stakeholders.

The Executive Board of **KAPPA-FLU** is the appropriate coordinating body to ensure the adequate screening for and to make decisions upon proper exploitation and dissemination of the results.

Expected results will be disseminated to the relevant stakeholder groups as described and presented in Annex I.

INNOVATION AND KNOWLEDGE MANAGEMENT AND PROTECTION

Implementing an effective innovation and knowledge management process is highly relevant to **KAPPA-FLU**, as the development and broad stakeholder uptake of the prevention and control strategies based on the knowledge generated in **KAPPA-FLU** is pivotal for realizing its long-term objectives. Therefore, **KAPPA-FLU** has concluded a Consortium Agreement (CA) based on the DESCA2020-model detailing the rights and obligations of the consortium partners with regards to the management of intellectual property, compliance with privacy rules and ethics, and contribution to the project, amongst others. The CA details the rights and obligations and associated procedures regarding issues such as access rights to background and ownership, protection, exploitation and dissemination of results, in compliance with relevant articles in section 3 (*Rights and Obligations related to Background and Results*) of the H2020 Grant Agreement. This will help to guarantee a proper dissemination and the protection of knowledge without any unjustified delay.

Coordination of the knowledge management activities and monitoring compliance to the CA and the relevant articles in the EC H2020 Grant Agreement (such as on access to background, ownership, protection, exploitation and dissemination of, and access rights to, results), will fall under the direct responsibility of the **KAPPA-FLU** Executive Board, involving the Steering Committee if necessary (e.g. in case of conflict resolving).

The following principles will support **KAPPA-FLU**'s strategy for knowledge management and protection:

- All partners will involve their local legal advisors or appropriate offices having expertise in the legal aspects of knowledge management and protection; and
- All beneficiaries will review their results obtained in the project for exploitation potential and knowledge protection, and communicate without a delay any decision to protect results generated in **KAPPA-FLU** to the Executive Board of **KAPPA-FLU**.



ANNEX

MEANS FOR DISSEMINATION AND EXPLOITATION

Means for dissemination and exploitation	Audience / Target group
Message from the Coordinator - Any information related to the KAPPA-FLU project progress	- Beneficiaries - Board members - EC representatives
Poster - Research data and conclusions presented on scientific conferences, symposia, workshops - General project information	- Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities - Interested citizens and consumers
Presentation - Research data and conclusions presented on scientific conferences, symposia, workshops - Public lectures	- Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities - Interested citizens and consumers
Articles - in peer-reviewed journals - in public journals, newspapers, magazines	- Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities - Interested citizens and consumers
Flyer - General information on the project, its topics, and partners	- Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities - Interested citizens and consumers
Public website - General information on the project, its topics, partners, and results	- Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities - Interested citizens and consumers



Means for dissemination and exploitation	Audience / Target group
Member's area on the website - Information on progress, tasks, deadlines, deliverables - Project specific manuals, templates, protocols, contacts	- Beneficiaries - Board members - EC representatives
Social media - News from the field of avian influenza - Information of KAPPA-FLU project progress	- Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities - Interested citizens and consumers
Newsletter - Update on the current situation in the field of avian influenza - Information on KAPPA-FLU specific project progress, upcoming tasks, achievements	- Beneficiaries - Board members - EC representatives - Targeted stakeholder
Press release - Notice of breakthrough scientific achievements	- National and international press agencies - Peers - Poultry production industry - Nature conservation organisations - International public and animal health and food safety authorities - International agenda-setting and policy-making authorities

EXTERNAL EXPERTS OF THE ADVISORY PANELS

Scientific Advisory Board

Topic	Representative
Ornithology	Simeon Lisovski (Alfred Wegner Institut, Bremerhaven)
Influenza virus biology	Nicola Hill (UMass, Boston) Mary J. Pantin-Jackwood (USDA, Athens)
Molecular biology	Mary J. Pantin-Jackwood (USDA, Athens)
Agro-economics / Epidemiology	Alexis Delabouglise (CIRAD, Montpellier) Mary J. Pantin-Jackwood (USDA, Athens)

Ethics Committee

Vorname	Institute
Jon Richmond	Emeritus Professor
Bert Rima	The Queen's University of Belfast School of Medicine, Dentistry, and Biomedical Sciences

