



(Proposed) European Partnership on Animals and Health

General presentation and state of play (April 2021)

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Horizon Europe (Candidate) European Partnership on Animal Health and Welfare (**PAHW**)

Summary (Preliminary dossier May 2020):

*“Through a **coordinated public-public and public-private collaboration of actors**, the European Partnership “Animal Health & Welfare” will **help reduce socio-economic and environmental impact of animal infectious diseases, improve animal welfare, protect the economic viability of farms and produce safe food**. Additionally, since many animal infectious diseases and resistant microorganisms are known to cross the borders between animals, humans and the environment (for instance via wildlife vectors and contributing to antimicrobial resistance), a successful EU Partnership on animal health and welfare **will also be beneficial for public health**. The partnership will **foster generation of key knowledge, reinforce preparedness against upcoming and emerging threats for both animals and humans, promote and strengthen animal welfare, generate innovative methodologies and products, and support evidenced based policy making.**”*

Horizon Europe: structure & resources



EUR 9 billion under Horizon Europe
for Cluster 6 “Food, Bioeconomy, Natural Resources, Agriculture and Environment”

The presentation shall neither be binding nor construed as constituting commitment by the European Commission

Lessons Learned

from Horizon 2020 Interim Evaluation



Support breakthrough innovation



Create more impact through mission-orientation and citizens' involvement



Strengthen international cooperation



Reinforce openness



Rationalise the funding landscape



Key novelties

in Horizon Europe

European Innovation Council

R&I Missions

Extended association possibilities

Open science policy

New approach to Partnerships



New approach to partnerships: why?

Impact Assessment annex 8-5

- Need to **rationalise** the European R&I partnerships landscape
- Need to improve the **openness** and transparency of R&I partnerships
- Need to **link** the R&I partnerships to future EU R&I missions and/or strategic priorities

European Partnerships – definition

*"European Partnerships are initiatives where the EU together with private and/or public partners **commit to jointly support** the development and implementation of a **programme of research and innovation activities**. The **partners** could represent industry, universities, research organisations, bodies with a public service remit at local, regional, national or international level or civil society organisations including foundations and NGOs."*



New approach to European partnerships: overview

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- Simple architecture and toolbox
- Common set of criteria
- Coherent life-cycle approach
- Strategic orientation

Co-programmed

Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

Co-funded

Based on a joint programme agreed by partners; commitment of partners for financial and in-kind contributions & financial contribution by Horizon Europe

Institutionalised

Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

PAHW : planned to be a Co-funded partnership



European
Commission

European Partnerships: what is new?

- Only support partnerships if there is evidence that they are **more effectively** achieving policy objectives than Horizon Europe alone
- **Fewer** partnerships with **higher** impacts*
- Common and coherent **framework of criteria** along the life cycle of partnerships, across all pillars, even across programmes and other regulations (e.g. EIT, DEP, space)
- Increase **openness** and encourage a **broader set of actors** to participate
- Improve **coherence** between partnerships and Horizon Europe, also the missions
- **Time limited** with conditions for phasing-out the Programme funding

* : *no explicit requirement on budget but likely above 50 million € and up to several hundred million €*

European partnerships: provisions

Regulation

- Recitals 16 and 17
- Definition 3
- Article 8
 - typology
 - conditions
- Annex III: Partnerships, with criteria for
 - Selection, Implementation, Monitoring, Evaluation, phasing-out and renewal
- Annex Va: areas for possible institutionalised European Partnerships (based on Article 187 and 185 TFEU)

Horizon Europe documents:

Common understanding on the Framework Programme

<https://data.consilium.europa.eu/doc/document/ST-7942-2019-INIT/en/pdf>

Corrigendum on Annex III :

<https://data.consilium.europa.eu/doc/document/ST-7942-2019-COR-1/en/pdf>

PGA on the Specific Programme:

<https://data.consilium.europa.eu/doc/document/ST-8550-2019-INIT/en/pdf>

Specific Programme

- Article 4a: Identification of co-funded and co-programmed partnerships in the Strategic Plan
- Strategic coordinating process for European Partnerships

Impact assessment: annex 8-5

In addition: Draft Criteria Framework for European Partnerships

[All provisions in a nutshell](#) and additional Information: [ERA-LEARN](#)

Clusters

How will Horizon Europe be implemented?

Collaborative projects remain the default:

- Consortiums of **at least three independent legal entities** and with at least one of them established in a Member State (Art. 18.2 FP/RfP)
- Competitive and open calls for proposals

The **Work Programme**, endorsed by the **Programme Committee**, will identify **topics** for each call.

- A Topic in the work-Programme will be developed for each of the **Co-Funded European Partnerships**.
- Not everything needs to be addressed by a Partnership: what will not be in PAHW (lack of budget, not fitting) could be addressed in the usual HE work-programmes.

Portfolio of candidates for European Partnerships (49)

HEALTH

Global Health EDCTP3
Innovative Health Initiative
Risk Assessment of Chemicals
Fostering an ERA for Health research
Transformation of Health Care Systems
Pre-clinical / clinical health research
Personalised Medicine
Rare Diseases
One Health AMR
Pandemic Preparedness

DIGITAL, INDUSTRY AND SPACE

High Performance Computing
Key Digital Technologies
Smart Networks and Services
Artificial Intelligence, Data and Robotics
Photonics
Clean Steel - Low Carbon Steelmaking
Metrology
Made in Europe
Carbon Neutral and Circular Industry
Globally Competitive Space Systems
European Geological Service

PILLAR III AND CROSS-PILLAR

EIT Climate KIC
EIT Health
EIT Manufacturing
EIT Food
EIT InnoEnergy
EIT Manufacturing
EIT Raw Materials
EIT Digital
EIT Urban Mobility
EIT Cultural and Creative
Industries

Innovative SMEs

European Open Science
Could (EOSC)

CLIMATE, ENERGY AND MOBILITY

Europe's Rail
Single European Sky ATM Research 3 Management
Clean Aviation
Clean Hydrogen
People-centric Sustainable Built Environment
Towards Zero-emission Road Transport
Connected, Cooperative and Automated Mobility
Batteries
Clean Energy Transition
Sustainable, Smart and Inclusive Cities and
Communities
Smart and zero-emission waterborne transport

FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT

Accelerating Farming Systems Transition
Animal Health and Welfare
Agriculture of Data
Rescuing Biodiversity to Safeguard Life on Earth
Climate Neutral, Sustainable and Productive Blue
Economy
Safe and Sustainable Food Systems for
People, Planet & Climate
Circular bio-based Europe
Water4All: Water security for the planet



Common for all European Partnerships

- **Strategic orientation:** to make a considerable *contribution to achieving EU policy priorities* (e.g. *Green deal*, Europe fit for digital age) and related strategies (e.g. *Circular Economy Action Plan*)
- **Common set of criteria** along their life-cycle, defined in the Horizon Europe regulation Article 8 & Annex III.
- **Key conditions for launching a partnership:**
 - Ex-ante demonstration of **directionality** (partners common strategic vision, underpinned by Strategic Research and Innovation Agenda/Roadmap)
 - Ex-ante demonstration of **additionality** (long-term commitment from partners to mobilise and contribute resources and investments)
- **Annual Work Programme:** translation of Roadmap/SRIA into annual priorities and activities
- **Systemic approach:** portfolio of activities that goes beyond collaborative R&I projects

The main differences are in the legal form and implementation, with the Co-programmed being the most simple, and the Institutionalised the most complex.

Strategic Coordinating Process for Partnerships (EU): Objectives

*The overall goal of the strategic coordinating process is to support an **evidence-based** policy for partnerships and a **strategic vision of the landscape**. It should allow a **consolidated view on the progress made by EU R&I partnerships**.*

Concretely it aims to:

*Support **Community Building** and mutual learning across partnerships;*

*Raise **Visibility** and strengthen stakeholder communication and consultation;*

*Provide policy makers and partnerships with the **Evidence Base**;*

*Prepare **Strategic Discussions** on key policy issues;*

*Ensure a **Feedback Loop** from Member States and Partnerships on the portfolio evolution, implementation, monitoring and evaluation.*

→ The achievement of these 5 objectives will be driven by a Partnership Knowledge Hub!

Co-programmed European Partnerships

"Division of labour"

- Most relevant **current actions**: Contractual Public-Private-Partnerships (cPPP)
- **Legal form**: Contractual Arrangement / MoU (signed between representatives of the partners and the Commission)

Implementation:

- Union budget is implemented in the Horizon Europe Work Programme.
- Partners implement their commitments and contributions under their responsibility.

Activities and contributions have to be agreed in the Annual Work Plan (to ensure they are in the scope of the partnership)

- European Commission: call topics for the necessary range of actions (R&I, Innovation actions, CSA, prizes)
- Partners: their own activities and investments;
- If Member States: nationally financed R&I, Innovation activities, and any other activity considered necessary, incl. transnational calls for proposals.

Association or support via CSAs provide back-office with important functionalities

Co-funded European Partnerships

- Relevant current actions: European Joint Programme and ERA-NET Cofund;
- **Legal form:** Grant Agreement (programme co-fund action) signed between a consortium of beneficiaries and the Commission (executive agency);
- **Implementation:** Member States would design a common programme to be implemented under their responsibility. It pools national funding/resources with co-funding from the Union.
- Funding rate 30% [in justified cases higher];
- Calls and evaluations are organised centrally, beneficiaries in selected projects are typically funded at national level (on the basis of rules agreed by partners).
- **Important to define ex-ante:**
 - Types of partners are needed to form the partnerships (consortium);
 - Stakeholders that provide input (e.g. priority setting) ← **role of ministries!**
 - Stakeholders and target groups that are addressed/ involved by the activities

Commitments and contributions

Horizon Europe Regulation: European Partnerships are based on commitment of the partners for financial and/or in-kind contributions.

Selection stage:

- Ex-ante demonstration of the partners' long term commitment, including a minimum share of public and/or private investments.

Implementation:

- Commitments, for financial and/or in-kind contributions, from each partner in accordance with national provisions throughout the lifetime of the initiative.

Contributions from Participating States:

- Co-programmed: financial and/or in-kind;
- Co-funded: financial and/or in-kind;
- Institutionalised based on Article 185/7: financial and/or in-kind, BUT a share of contributions in the form of financial contributions.

Contributions from Member States

a) Financial contributions:

- Example: MS organise transnational (or national) calls for proposals;
- National/regional funding payed to applicants (beneficiaries) count as financial contributions.

b) In-kind contributions

- Example: research performing organisation in the partnerships is implementing R&I activities that are financed by its institutional funding;
- Costs of implementing these activities can be counted as in-kind contributions;
- In co-funded Partnerships: costs of implementing direct activities minus Union funding can be counted as in-kind contributions.

➔ Important: Activities have to be agreed in the Annual Work Plan/activity plan to ensure that they are in the scope of the partnership

➔ According to RTD.A, a mixed model (in cash and in kind) is possible, but complex

European Partnerships under Horizon Europe

Guidance document and 'proposal' template (September 2019)

Proposals should be developed by potential partners, in close collaboration with and support from Commission services. 30-60 pages

1 General information

1.1 Draft title of the European Partnerships

1.2 *Lead entity (main contact):*

proposal supposed to be prepared by potential partners in close collaboration with EC services

1.3 Commission services (main contact)

1.4 Summary

2 Context, objectives, expected impacts

2.1 Context and problem definition

2.2 **Common vision, objectives and expected impacts** *(additionality, directionality)*

how much R&I investments necessary etc; SRIA/roadmap to be agreed with EC services...

2.3 **Necessity for a European Partnership**

beyond transnational joint calls...

2.4 Partner composition

3 Planned Implementation

3.1 Activities *(elaborated in SRIA) (directionality)*

3.2 Resources *(types and levels; framework conditions...)*

3.3 Governance *(management, advisory structures, ...)*

3.4 Openness and transparency *(during lifetime)*

PAHW: Background

Animal Health:

*Successful but relatively modest EU public-public research partnerships mainly **ERA-NETs**: FP7 EMIDA, followed by ANIHWA, mobilising over 70 million euros in several joint calls funded from member countries. ERA-NETs emerged from **SCAR CWG animal health and welfare***

*Since end 2019, **ICRAD : ERA-NET for international coordination of research on infectious animal diseases : ICRAD***

*An **international alliance** of public research funders: **STAR-IDAZ Network**; now **STAR-IDAZ International Research Consortium**.*

*Improved collaboration on research prioritisation and procurement for public institutions
Companies involved only marginally into research projects until now.*

***Money**: MSs spend circa 300-400 million/year. Animal health pharmaceutical industry spends circa 400 million/year- including pet animals*

Animal welfare:

ANIHWA, but also SusAn (ERA-NET on sustainable animal production, which emerged from SCAR CWG on sustainable animal production) and Core-Organic

PAHW: policy/regulatory environment

EU Animal Health and Welfare regulatory framework

EU One Health Action Plan against AMR

Green Deal, notably Farm to Fork strategy: sustainable agriculture, target on reduction AM sales, review of animal welfare legislation

Reinforced Health policy (EU4Health)

...

Building PAHW: process

End 2018 : DG AGRI initiated discussions with CWG AHW

June 2019: early fiche developed by EC for consultation of Member States

From Autumn 2019: CWG AHW 'Task Force' meetings with AGRI

May 2020: preliminary proposal/dossier submitted to RTD; feedback with constructive comments received in June 2020

Autumn 2020: provisional core group + consultation of CWG for members and experts AH&W; refinement of expected objectives (general, specific, operational) and development of content

Feb/March 2021: CG agrees the themes to work on, setting up of expert groups

March 2021: publication of HE Strategic Plan 2021-2024: PAHW in the list of candidate European Partnerships

PAHW dossier preparation: timeline

Indicative timing if partnership for work-programme 2023-2024 (according to RTD.A):

- Early 2022 – formal draft ‘**proposal**’ submitted to RTD/A for review (see: EC guidance document September 2019)
- Mid 2022 – **proposal finalised** and published on the Europa website
In parallel *partnership prepares its **SRIA** (attention: the consultation phase for the SRIA often takes at least 6 months).*
- End 2022 – **SRIA finalised** and adopted by the partnership
- March 2023 – the 2023/24 Work Programme is adopted, including the call topic related to the partnership.

The ‘application’ to be submitted under the Work-Programme topic will be different from the ‘proposal’ but will be largely based on it

PAHW: Review by RTD/A (June 2020)

Preliminary PAHW dossier *(proposal following RTD guidance: not a 'call application')*

*revised scope compared to early fiche 2019 (AW added); **Main ideas identified, but no SMART* objectives nor concrete targets**; Industry interested, but no commitment*

RTD.A4 feedback: “A good and ambitious first draft, which nevertheless needs further refinement of the **intervention logic** in order to allow a meaningful monitoring of future progress towards the objectives. Please work on **making objectives and impacts more SMART** (specific, measurable, agreed, realistic, time-bound).”

Context, objectives, expected impacts:	** score ++
Common vision, objectives and expected impacts:	score +(+)
Necessity for a European Partnership :	score +
Partner composition and target group :	score ++
Activities:	score ++
Resources, governance, openness and transparency:	score +(+)

***: specific, measurable, achievable, relevant, time-bound**

**** Score: +++ strong, no changes needed; ++ medium, minor changes needed; + low, significant changes needed**

DRIVERS

Societal: Vulnerable sector with low societal recognition

Technological: New technologies are available but expensive; opportunities for innovation exist but difficult to reach

Environmental: Variable external conditions (climate change, chemical contaminants incl. antimicrobials, etc.)

Economic: Sub-optimal investment; veterinary pharmaceutical sector is less profitable than in public health

Political: Animal health, welfare and food regulations at EU level, Tripartite Action Plan AMR, Green Deal, new CAP, etc. enforce rigid restrictions

GENERAL OBJECTIVES

To enhance animal health & welfare, but also to safeguard public and environmental health (One Health, One Welfare)

SPECIFIC OBJECTIVES

To cooperate among most actors (research centres, reference labs, funding organisations, industry, risk assessment & mgt) in Europe and beyond

To develop knowledge and technological improvement and to perform research on Animal Health & Welfare

To support the uptake of the Partnership outcome by stakeholders (a.o. risk assessors & managers, policy makers, sectors, industries)

OPERATIONAL OBJECTIVES

Surveillance and Data

Diagnostics for health and welfare

Farm management

Vaccines and Treatment

NN

Modified version of the earlier scheme presented in [proposal v2.6 of May 2020](#)

The operational & specific objectives will be defined at a later stage, following the outcome of the WG

PAHW Working Groups (experts)

WG Surveillance + Data AH & AW

WG Diagnostics AH & AW

WG Farming practices AH & AW

WG Vaccines and Treatment

WG AMR (see One Health EJP and JPIAMR)

WG Fish AH & AW (see SCAR Fish)

One Health / AMR, Animal Welfare and Fish should become included in these objectives and Working Groups

PAHW: next steps ... (EUP level)

What

- **Refine content taking into account:**
 - Criteria for partnerships (*directionality, value added (e.g. EU policies): looking for impact*)
 - Other European Partnerships
 - Interests of potential partners
- **Refine/add objectives; make them SMART* ; design related activities, taking into account :**
 - Budget (*unknown -decision later-... but likely € 200-400 million*), so prioritising of ideas needed
 - Timing (*duration of 7 years max*)
 - Types of activities (*research but also other activities can be essential*)

How

- **Partners and stakeholders** (*inclusiveness*)
 - Public research programme owners/managers
 - Other funders?
 - Other actors :Industry (*Pharma and Diagnostics certainly essential, but possibly other actors*) and other stakeholders (e.g. *farming sector; agencies...*)
- **Governance/implementation mode** (*external calls and/or internal work*)
- **Discuss opening to international cooperation**

*: **specific, measurable, achievable, relevant, time-bound**

PAHW: EP criteria and tips for CG/WGs...

7 criteria from the (draft) legal framework: (data to be collected from all EPs)

Additionality/Union added value ; Directionality ; Coherence and synergies ; Transparency and openness ; Sustainability and phasing out ; International visibility ; Flexibility

Additionality/Union added value/Directionality (*leverage and impact*)

- Focus on objectives and activities that cannot be effectively realised by MSs alone.
- Contribute to the realisation of the European Research Area.
- Union investment in areas of high European added value and relevance for agreed European political priorities.
- Demonstrate delivery of results for the EU and its citizens, notably global challenges and competitiveness.

EU wide integrative activities/targets and capacity to align national activities: platforms; infrastructure like; data systems/repositories ;

'other activities' of common interest (e.g. capacity building)

Innovation: addressing market failures

EU policy support (sustainable production, AW, AMR, emerging threats/OH...) but also global challenges/SDGs, and capacity to align

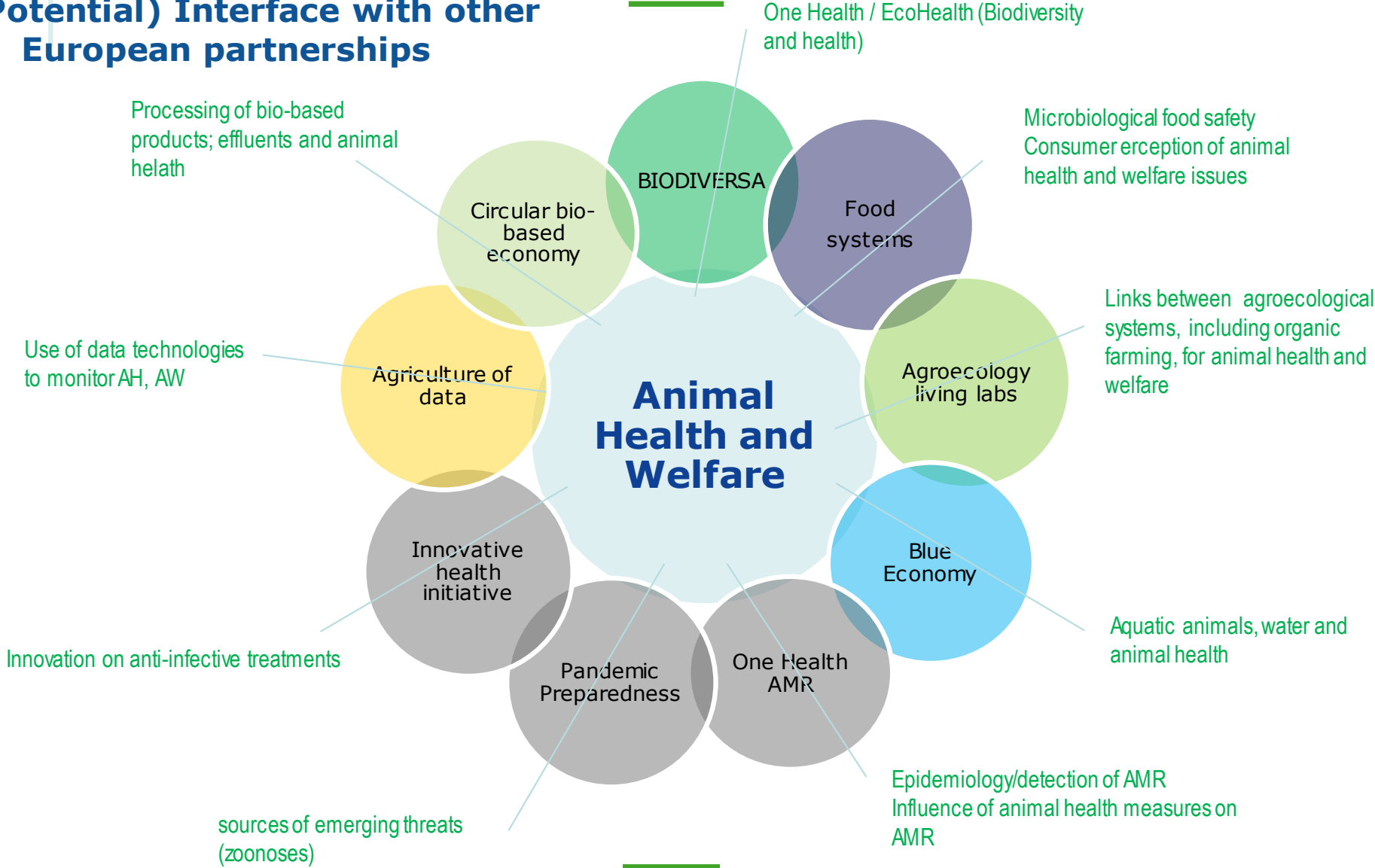
Capacity to mobilise resources

Not everything needs to be addressed: what will not be in PAHW (lack of budget, not fitting) could be addressed in the usual HE work-programmes

To WGs: no catalogue, no book, chapter! Reasonable number of well designed and realistic ideas fitting the criteria, with appropriate granularity, where the partnership can 'make a difference'.

Coherence and synergies : *contacts being made with other Partnerships and initiatives (by AGRI, CWG, CG, WGs)*

(Potential) Interface with other European partnerships



PAHW: EP criteria and tips for CG/WGs...

Transparency and openness (*inclusiveness*)

- Transparent in the process of selection, as well as during their preparation and implementation, and use of results beyond the partnerships themselves.
- Demonstrate high level of openness towards relevant partners and stakeholders in priority setting, implementation and participation in its activities.
- Facilitate the participation of new members at programme and project level, aim at a broader stakeholder involvement.
- Improve openness for dissemination of and access to results.

Sustainability and phasing out

- Future partnerships should include activities allowing for an orderly phasing-out or exit from Framework Programme funding (sustainability) according to the agreed conditions and timeline, without prejudice to possible continued transnational funding by national or other Union programmes. (*SMART objectives; impact driven;*)

International visibility (*international cooperation*)

- Establish global relevance and serve as hubs for international cooperation, where appropriate.
- Level of international cooperation at initiative and project level.
- Resulting visibility for the European Partnership.

Flexibility

- Demonstrate flexibility in implementing activities, resource allocation and/ or partner composition to changing market and/or policy needs.
- Deploy a wider set of modalities and activities necessary to achieve its objectives, beyond the calls for proposals.

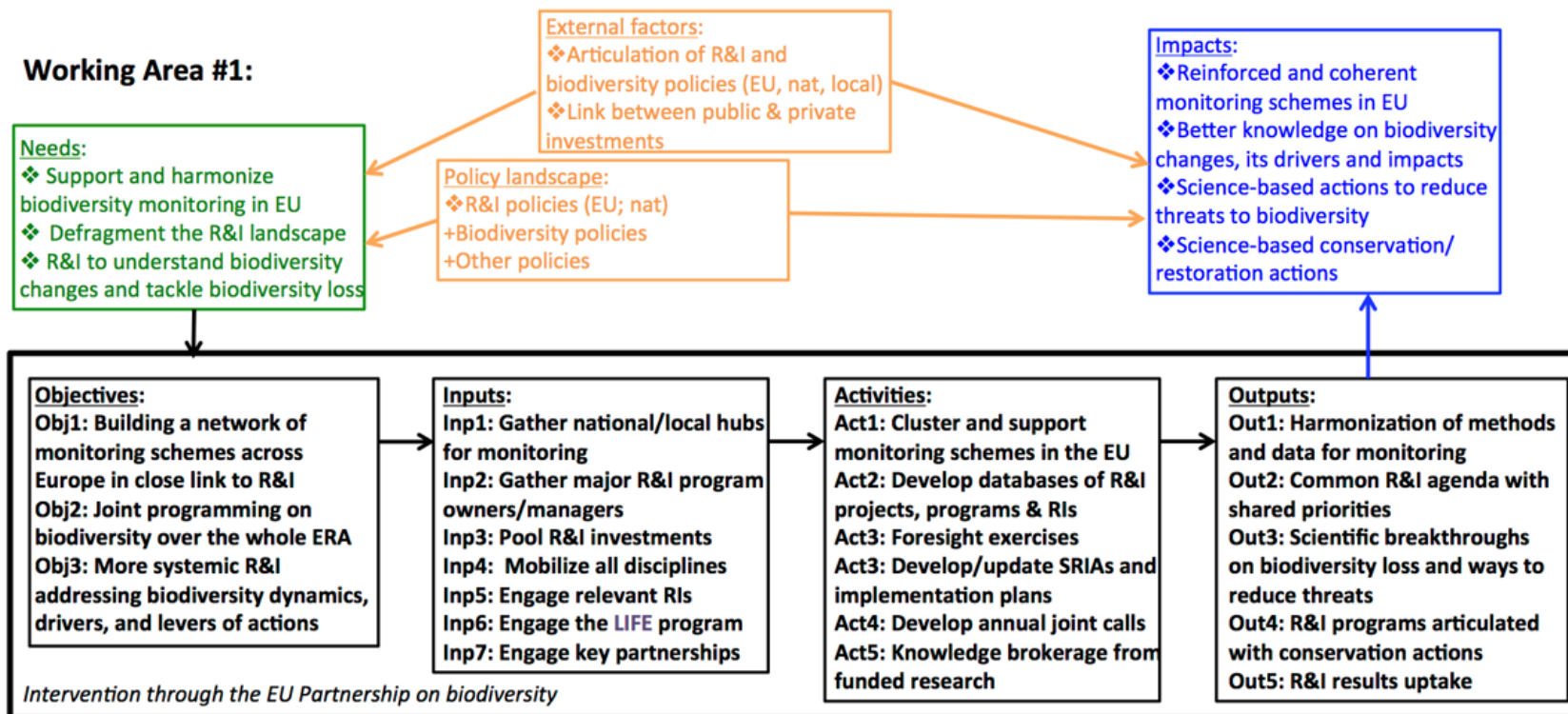
Proposed Intervention Logic

To define, per Working Group

- *Proposed Workgroup Lead (CG name); Suggested experts*
- *Description, **in scope/out scope***
- *Link to other Working Groups*
- *In which way is the WG linked to a Specific Objective?*
- *In which way is the WG linked to the GO?*
- **Why is this Working Group needed?**
The needs that will be taken up by the objective of the WG (overall aims).
- **What inputs are required to develop this objective?**
Input: Resources that go into the EUP, incl. data, literature, etc. expertise, staff time, materials, money, equipment, facilities, volunteer time.
- **What activities should be planned to reach this objective? Priorities should be indicated; starting data**
Activities: including calls for R&I proposals, from concept to demonstration and validation, as well as joint activities beyond joint calls that effectively support achieving its objectives, group of activities (platforms)
- **What are the expected deliverables?**
Deliverables are outputs: the products, publications & reports, pilots, infrastructures, data bases, models, services, website, etc., goods and services delivered.
- **What specific results / outcome can be expected?**
Result or outcome is R&I based solutions for policy makers, sectors and industry (economy) and society).
- **Please describe the expected impact**
Impact: The social, economic, civic and/or environmental consequences of the EUP. Impacts tend to be longer-term and so may be equated with goals. Impacts may be positive, negative, and/or neutral: intended or unintended. These should be SMART: specific, measurable, achievable, realistic and time-bound).



Example of intervention logic in EP Biodiversity dossier



Monitoring Framework (EC)

All Partnerships need to formulate general, specific and operational objectives at programme level and need to have a corresponding monitoring framework to track progress towards achieving these.

European Partnership [title]		Monitoring and evaluation framework, draft 1, [date]			
Overall vision: [max 500 characters]					
Objectives	What is a measure of success? Please use quantitative (Key Performance) and qualitative indicators, and link them to a point in time	Which is the data source and methodology used [project data, study,]	Who is responsible for monitoring and providing the data / information When will it be collected?	Baseline and target	
General objectives (linked to impact indicators)	GO1				
	GO2				
	GO3				
Specific objectives* (linked to outcome/result indicators)	SO1				
	SO2				
	SO3				
	SO4				
Operational objectives* (linked to output indicators)	OO1				
	OO2				
	OO3				
	OO4				

Priorities, Research needs: initiatives and resources for CG/WGs work and SRIA development

SCAR CWG AHW: *SRIAs on AH and AW (updating by ICRAD?)*

SCAR FISH SWG – CWG AHW: *SRIA on AH and AW*

DISCONTTOOLS: *database on priority diseases (gaps and needs)*

International:

STAR-IDAZ IRC and related research alliances (GARA, LiHRA etc)

Other research Alliances (e.g. OFFLU; UK vaccinology)

OIE (e.g. reports on vaccines to reduce AMU)

EFSA reports and opinions

Private sector: *D4A database on diagnostics; AHE precompetitive research needs...*

Public-Public cooperation: CWG AHW, SWG FISH

Since 2005; Number countries: 20 (15 MS)

Coordination: mapping (e.g. project database), SRA etc

*Involved in (setting+) **ERA-NETs** and **STAR-IDAZ alliance**
(European regional network)*

Can help establishing priorities/roadmap:

***Strategic Research Agendas** (AH, AW, terrestrial/aquatic)*

*Involvement in **DISCONTTOOLS** (continuation of FP7 project
linked to ETP Global Animal Health: **gaps and priorities**)*

Public-Public cooperation: ICRAD ERA-NET

"International coordination of research on infectious animal diseases"

01/10/2019 – 30/09/2024

20 countries; 28 partners

Planned call: +/- EUR million 16 (country funders) + 8 (EU co-funding)

Research areas of interest

- Focus on ASF and Animal Influenza
- Vaccines, diagnostics and disease management systems as fundamental tools to prevent and control the spread of infectious livestock diseases
- Disease management and epidemiology
- Tools to reduce the need for antimicrobials

Ideas for public-private cooperation:

AnimalhealthEurope

Themes for public-private partnerships to enhance innovation in animal health and welfare

(exploratory discussions)

AnimalhealthEurope's Network of R&D Experts. Overall role is to achieve a coordinated approach to define and communicate the animal medicines industry R&I needs to EC and other public bodies. The experts defined the themes required for boosting innovation in animal health and welfare where industry partners can collaborate without entering in the competitive area.

9 themes selected: (each theme is divided in four categories: objectives, background, impact and challenge- document available)

- 1. Early detection
- 2. Alternatives to animal testing
- 3. Biomarkers and clinical outcome
- 4. Standardization of data and methods
- 5. Immunology tools
- 6. Antiparasitic resistance mechanisms
- 7. Alternatives to traditional antimicrobials
- 8. Microbiome research
- 9. Surveillance of emerging zoonotic Vector-Borne Diseases in Europe