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Animal Task Force

Fostering knowledge based innovation for a sustainable and competitive livestock sector in Europe

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1. A European Public-Private Partnership

Industry & farmers representative organisations

animalhealth europe

FABRE TP Farm Animal Breeding & Reproduction Technology Platform

FEFAC Experts in Animal Nutrition

FEFANA

European Cattle Innovation Partnership

Knowledge providers

AARHUS UNIVERSITY

SLU

FINS University of Novi Sad INSTITUTE OF FOOD TEHNOLOGY IN NOVI SAD

crea

Luke NATURAL RESOURCES INSTITUTE FINLAND

INIA Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria

INSTYTUT GENETYKI I BIOTECHNOLOGII ZWIERZĄT Polskiej Akademii Nauk

dafa Deutsche Agrarforschungsallianz

CIEL

UNIVERSITEIT GENT

Wallonie recherche CRA-W

INRAE

iniav

VÚŽV

WAGENINGEN UNIVERSITY & RESEARCH

Agroscope

BIOS science austria

eagasc Agriculture and Food Development Authority

NMBU Norwegian University of Life Sciences

Partners

copa cogeca

UECBV European Livestock and Meat Trades Union

eda european dairy association

EVERI

CEJA

European Dairy Farmers

AVEC THE VOICE OF EUROPE'S POULTRY MEAT SECTOR

CEMA

CLITRAVI

EFPRA

FVE

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ATF Presidency and secretariat - 2022

- **Frank O'Mara – President**
  Director – TEAGASC

- **Giuseppe Bee**
  Head of the Swine Research Unit of Agroscope, Switzerland

- **Prof. Ana Sofia Santos, research organisations**
  Director of FeedInov CoLab, Chair of Portuguese Association Animal Sciences (APEZ), Portugal

- **Ana Granados-Chapatte, industry organisations**
  General Secretary FABRE-TP

- **Florence Macherez – Secretary General**
- **Susana De Magalhaes – Assistant to Secretary General**

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Activities

Providing input for EU research and innovation agenda

(Horizon2020, Horizon Europe, JPI FACCE&HDHL, SCAR, position papers)

Arranging dialogue on sector innovation with key stakeholders in EU

(EC, Members of Parliament, industry organisations, NGOs, scientific community)

Enhancing cooperation in EU research & innovation

(Reinforce an innovative and efficient research in livestock sector)

Enabling knowledge exchange and act as a source of expertise

(workshops, events, website, ad hoc expertise)

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Strategy

- **Draw a prospective vision for a sustainable, competitive & diverse livestock production sector in EU through innovation & knowledge transfer**
- **Bring together the European livestock sector to share a common view**
- **Detect early signals that ground the future issues and opportunities faced by the sector**
- **Work for the benefit of the livestock sector to propose science-based solutions to the major challenge of global food security in the context of a limitation of global warming and resource use**

Horizon Europe
THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021–2027)
SCAR Standing Committee on Agricultural Research
FACCEJPI
eip-agri
GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK
European Federation EAAP Animal Science
GLOBAL RESEARCH ALLIANCE ON AGRICULTURAL GREENHOUSE GASES

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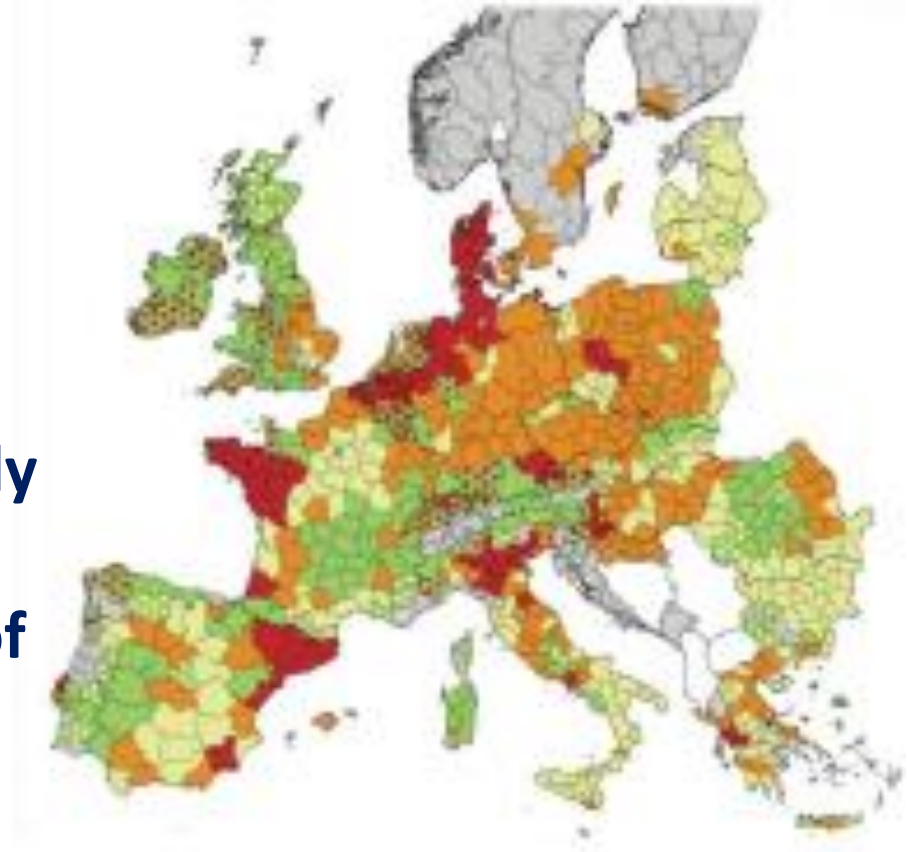
Vision

- **ATF promotes interdisciplinary R&I bringing together researchers with complementary expertise & multi-actors of agri-food chains and territories**

- **Fostering the sustainability of a wide diversity of European production systems to improve the resilience of our EU agrifood systems** (ie. intensive, low input systems, organic, agroecological systems…)

- **Holistic agricultural approaches will link more closely livestock & plants to better use and protect the qualities of agroecosystems and maximize the use of biomass through recycling/cascading approaches**



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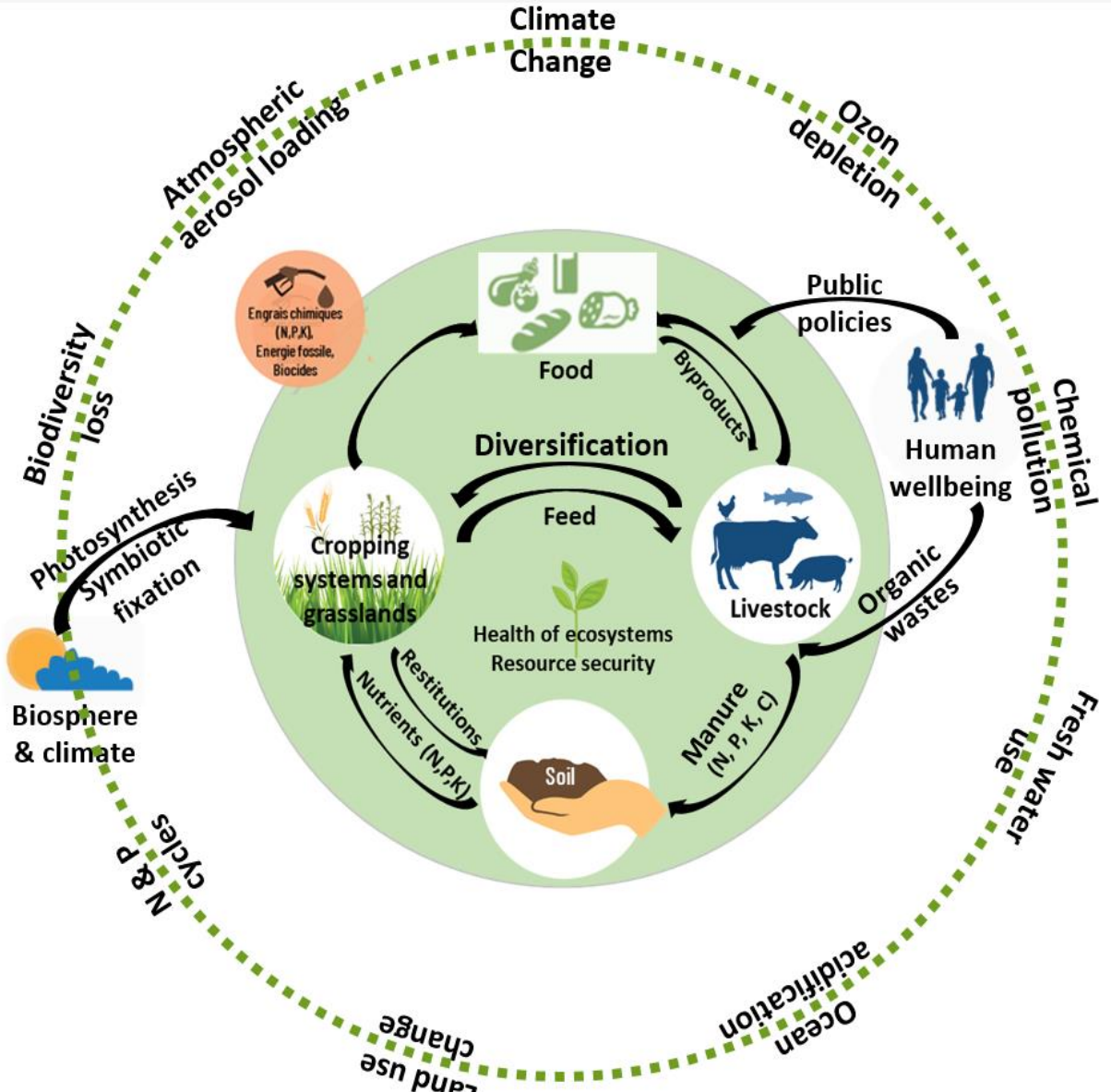
Input to Horizon Europe
A strategic Vision

Horizon Europe
THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021–2027)

Towards circular & sustainable Agri-food systems

- Livestock's role to facilitate crop diversification and the provision of food and organic fertilizers
- Benefits:
  - Food sovereignty
  - Resource security and N & Protein autonomy
  - GHG mitigation and adaptation to climate change
  - Health of animal and ecosystems
  - Biodiversity
  - Business continuity



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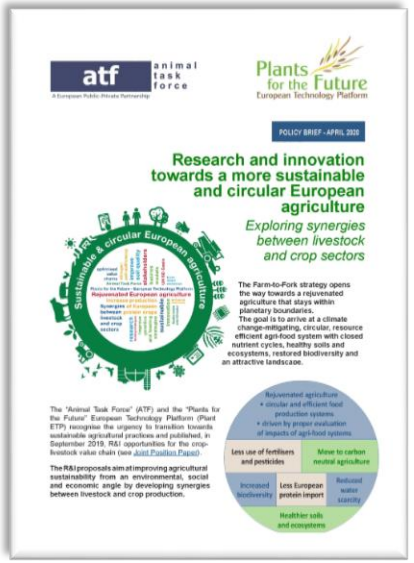
Input to Horizon Europe Strategic vision

ATF Vision Paper: A framework for suggested priorities for R&I Horizon Europe
Feb. 2019 -link

ATF-Plant ETP Position paper
Sept. 2019 -link

Introduction DG Agri-RTD, Oct. 2019

Future of EU livestock: How to contribute to a sustainable agricultural sector?
JRC-DG Agri, JL. Peyraud, M. McLeod (SRUC)
July (Oct.) 2020 -link



ATF-Plant ETP Policy Brief
May 2020 -link

Introduction DG Agri-RTD, Sept. 2020

2 Webinars:
- EC DGs Oct. 6th 2020
- Stakeholders Nov. 4th 2020

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Input to Horizon Europe
A Strategic Research & Innovation Agenda (SRIA)


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A strategic research and innovation agenda for a sustainable livestock sector in Europe

Suggested priorities for research for Horizon Europe to enhance innovation and sustainability in the livestock production sector of Europe's food supply chains

Third White Paper of the Animal Task Force

April 2021

Plants for the Future European Technology Platform

European Aquaculture Technology and Innovation Platform

atf

TPorganics European Technology Platform

food for life

Members' consultations & events

Collaborations with ETPs

- **Plants ETPs:** 2 worshops: 2018-2019
  Position paper & Policy brief – 2019-2020
- **TP Organics:** 1 workshop: March 2019
  Joint topics in both SRIAs – Oct-Nov. 2019
- **Food For Life ETP:** 1 workshop: Oct. 2019
  Topics in ATF's SRIA – Nov. 2020
- **EATIP Aquaculture ETP:** 1 meeting: Jun. 2019
  Starting discussions on SRIAs
- **Agrifood ETPs:** Joint statement / Horizon Europe Budget -link

EAAP European Federation of Animal Science

SCAR Standing Committee on Agricultural Research

GLOBAL RESEARCH ALLIANCE ON AGRICULTURAL GREENHOUSE GASES

GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK

FACCEJPI

eip-agri

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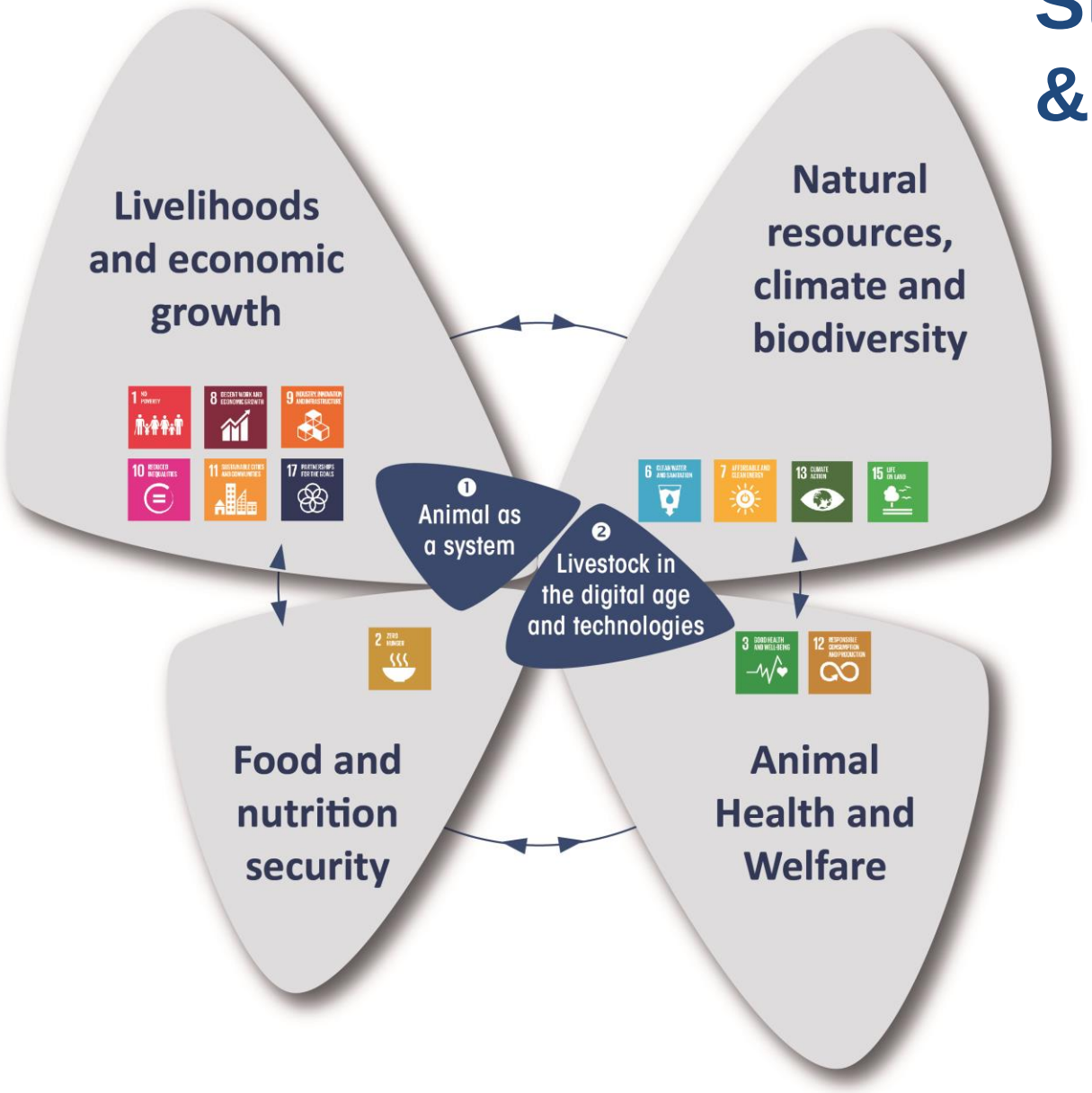
Input to Horizon Europe

Horizon Europe
THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021–2027)

Strategic Research & Innovation Agenda (SRIA)



Four sustainability domains
Aligned with
Sustainable Development Goals (SDGs)
& Global Forum on Agriculture (GFA, 2018)

Two cross-cutting issues

✓ ***Watch the replay of the ATF webinar May 20th, 2021***

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SRIA: Expected R&I outcomes

- **More sustainable livestock farming systems with the following attributes,**
  - **Low impacts on the climate and resilience to climate change,**
  - **Low impacts on water quality (groundwater, wetlands and coastal areas) and air,**
  - **High standards of animal health and welfare and responsible use of antimicrobials,**
  - **Efficient use of resource (land, soil, water, workload) and resource security,**
  - **Reduced dependency on imported proteins and use of "deforestation free" proteins;**
- **A diversity of livestock farming systems contributing to:**
  - **Competitive and sustainable circular agri-food systems in different regions,**
  - **Food and nutrition security with diverse and high quality diets, at an affordable price,**
  - **Restoration of soil health and fertility, biodiversity and the quality of ecosystems;**
- **A stronger European research and innovation in animal production in Europe and research on transformational changes.**

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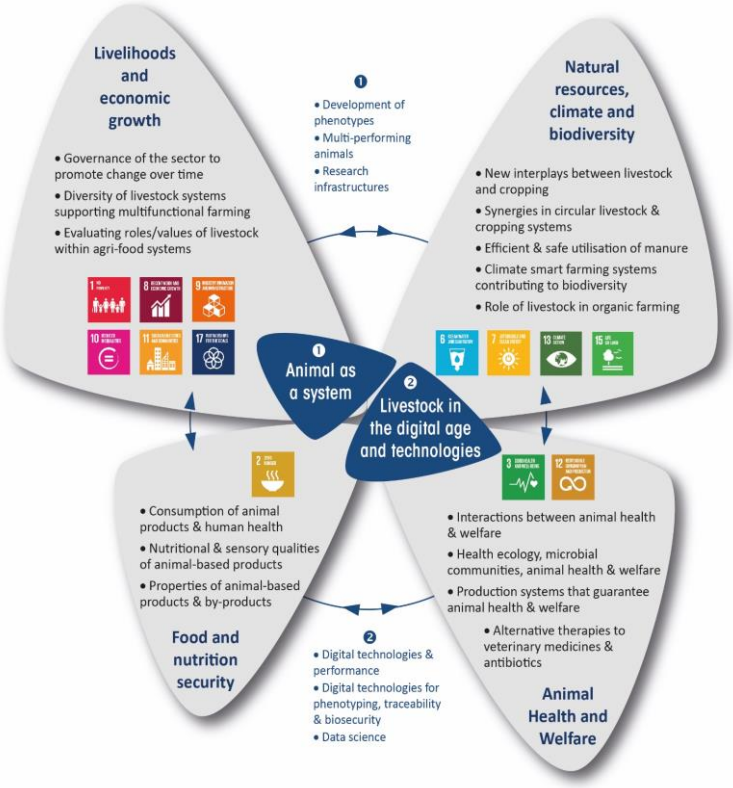
Aims of the key areas

A variety of more efficient and robust animals, adapted to varied farming conditions: Towards a dynamic vision of the animal

Understanding socio-economic issues to highlight the future and how different farming systems can contribute to a variety of services for society

Animal production for healthy diet fitting social demand, valorisation of livestock based products



Using livestock to increase the efficiency of plant biomasses use** (eg. inedible crops) **while closing nutrient cycles and restoring the quality of ecosystems

Animal health & welfare as key elements towards consumers' trust in livestock farming systems, with antimicrobial use and animal welfare issues that are high in agendas

How changes allowed by digital technologies and big data can help better meet farmers and citizens' expectations

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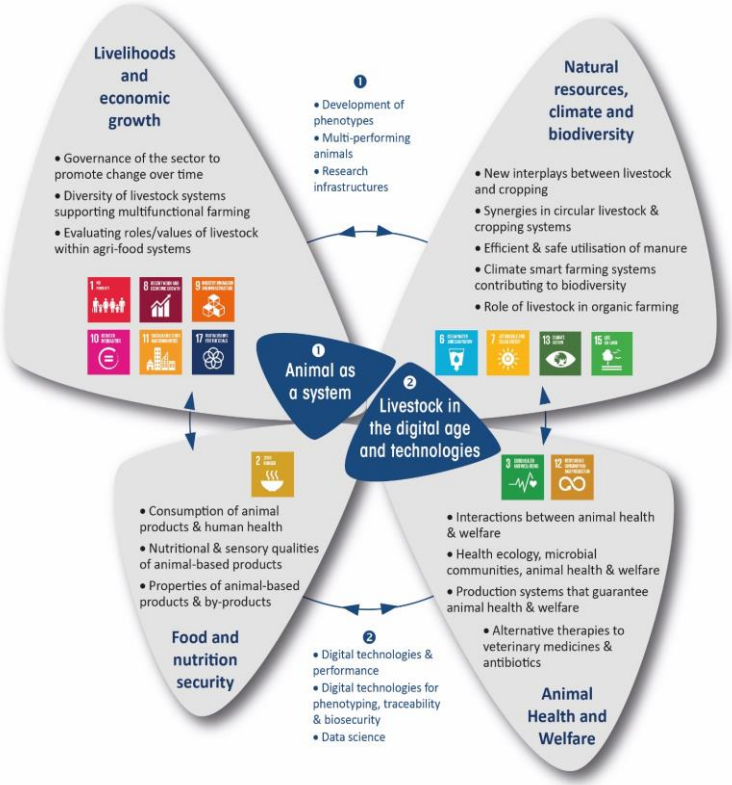
Major issues of the key areas

- **Renew the paradigm of research at the animal level**
- **Improve animal efficiency and robustness**
- **Renew breeding objectives**

- Promote multi functional livestock systems fitting the societal demand
- Increase resilience of livestock farming systems



- Maximise GHG mitigation and soil C sequestration
- Maximise resource use efficiency
- Ensure resource security
- Restore biodiversity
- Foster high natural value farmlands

- Improve the role of animal based food for nutrition security
- Increase the value-added from animal by-products

- Develop integrated management of animal health
- Improve animal welfare
- Prevent and built resilience to pandemics.

- **Develop innovative tools and concepts for livestock management through monitoring**
- **Improve management of product quality and traceability**

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1. Natural resources, climate and biodiversity

1.1. Design and support concepts for new interplays between livestock and cropping*

- Masterplan enabling a sustainable integrated approach to crop and livestock production
- Efficient organisation of stakeholders and innovative public policies

1.2. Optimising synergies in circular livestock and cropping systems*

- Innovative cropping systems x use the ability of livestock to utilise inedible biomass
- New protein rich sources of feed and biorefineries approaches in support to circularity
- Evaluation of the novel feeding options

1.3. Efficient and safe utilisation of manure

- Efficient and safe use of manure as fertilizer and/or amendment
- Innovative manure refinery technologies within a circular economy

1.4. Development of climate smart farming systems contributing to biodiversity restoration*

- GHG mitigation using a wide range of innovation used simultaneously
- Adaptation of livestock systems to global warming and water scarcity
- Innovative farming systems to balance biodiversity, GHG mitigation and efficiency

1.5. Support the role of livestock in organic farming**

- Achieving circular economy, soil fertility
- Climate smart organic livestock production and sustainability of low input monogastrics systems

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2. Animal Health and Welfare

2.1. Interactions between animal health and welfare

- Sensory, cognitive and emotional abilities in relation to the quality of life of animals
- Deepening the relationship between animal health and welfare and with efficiency

2.2. Health ecology and connections between microbial communities, animal health & welfare

- Regulation and function of microbial communities in relation to animal health & welfare
- Host x pathogen x microbiome interaction
- Management of microbial ecosystems and pathogen surveillance

2.3. Towards production systems that guarantee animal health and welfare

- Managing interaction between individuals in a context where animal are kept in groups
- Exploring the links between animal and human welfare
- Design improved rearing practices and develop indicators to evaluate them
- Management of infectious diseases in farm animals
- Local value chain organization that guarantee animals' health and welfare

2.4. Development of alternative therapies to veterinary medicines and antibiotics

- Alternatives to chemicals antimicrobial (vaccines, natural compounds)
- More efficient therapies if antibiotics are to be used

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3. Food and nutrition security

3.1. Improving insights into consumption of animal products and human health***

- Deepening the knowledge about the affect of animal based food on physical and mental health
- Evaluate the nutritional and health impacts of alternatives to animal protein

3.2. Management of nutritional and sensory qualities of animal-based products***

- Combined strategies to produce animal based food with healthier characteristics
- Optimisation of nutrient efficiency across the sector “one nutrition”
- Technologies to increase the nutritional value of animal based food
- Adaptation of industries to more diversified animal based food and traceability along the food chain

3.3. Functional and bioactive properties of animal-based products and by-products***

- Exploration of bioactive compounds of interest for human health
- Non-food application of animal products components and animal by-products

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4. Livelihoods and economic growth

4.1. Drivers of evolution and governance of the sector to promote change over time

- Understanding consumers' socioeconomic drivers and trends in market
- Livestock farmers renewal
- Determinants of structural changes in farms and industries

4.2. Diversity of livestock farming systems supporting multifunctional farming

- Characterisation and management of the diversity (diversification) of livestock systems
- Making use of reservoirs of existing genetic resources and managing animal diversity
- Diversification of livestock species (alternative species), breeds and products

4.3. Evaluating the roles/values of livestock (products) within agri-food systems

- Multicriteria assessment of the multi-functionality of livestock farming systems using LCA
- Multircriteria assessment using the concept of package of services

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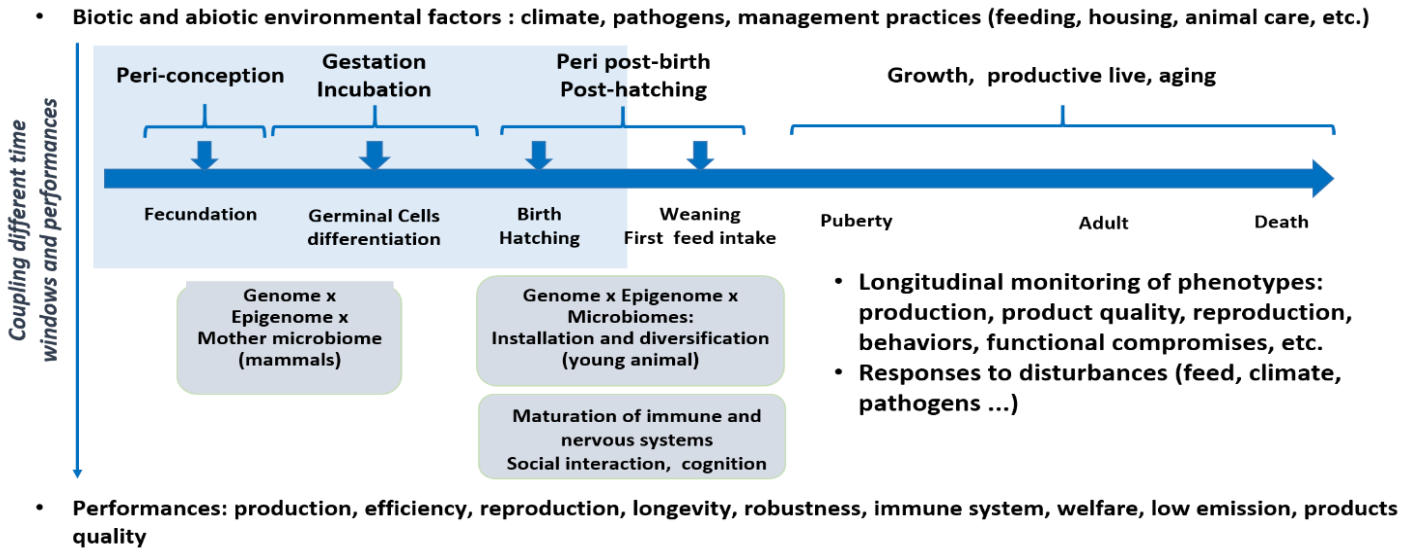
5. The animal as a system

5.1. Early development of phenotypes

- Microbial ecosystem and host
- Cell differentiation mechanism and development of tissues of interest
- Intergenerational tracking of epigenetic deterministic traits
- Development of sensory, cognitive and emotional capacities



5.2. Multi-performing animals

- Compromise between biological functions in various environment
- Characterisation and control of animal immunity in its environment
- Relation between microbial communities and animal health
- New individual level disease phenotypes with -omics data
- Understanding the animal's awareness of its welfare and health state

5.3. Improving research methods and infrastructures towards innovation

- Alternatives to animal experiments
- Creation of a European large animal clinic
- Adaptating and developing the concept of digital twins

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6. Livestock in the digital age

6.1. Use of digital technologies in livestock farming to improve performances

- Determination of the gain made possible by the management of individual diversity and evaluation of the return on investment
- Development of structural information systems et decision support tools
- Development of precision management technologies to improve efficiency, welfare and health
- Evolution of the farmers' job

6.2. Use of digital technologies to develop high throughput phenotyping and to improve traceability & biosecurity

- Development of a multifunctional vision of the animal (high throughput phenotyping)
- Utilisation of remote systems for tracking and tracing

6.3. Data science

- Development of data driven approaches
- Massive data management

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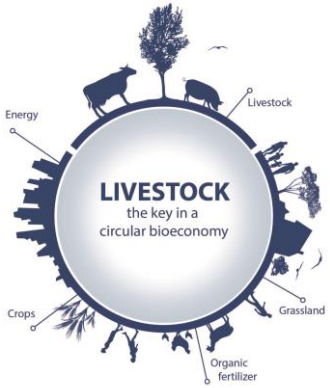
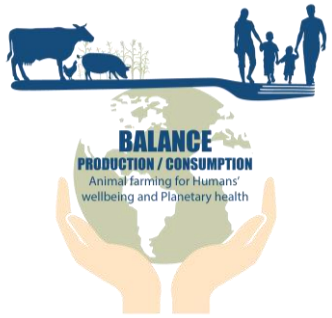
Knowledge exchange: ATF Events (2016-2019)





- **2016:** ***Livestock is key in a European Circular Bioeconomy***
- **2017:** ***Food integrity, How can the animal sector contribute?***
- **2018:** ***Balance Production/consumption, animal farming for humans' well-being and planetary health***

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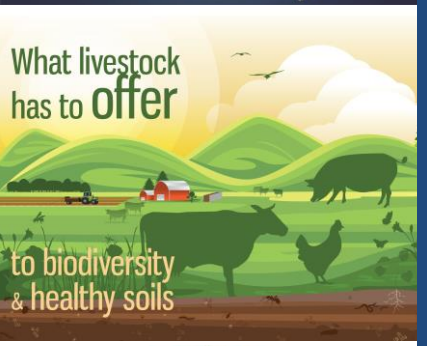
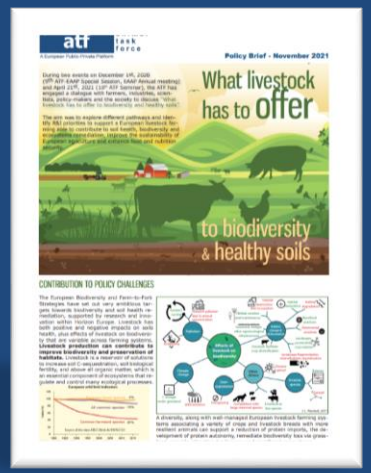
Knowledge exchange: ATF Events (2019-2021)

- 2019: Towards climate smart European livestock farming



- 2020: What livestock has to offer to biodiversity & healthy soils?



- 2021: Beyond feed vs food: crops & animals together to address food and nutrition security

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ATF Events - 2022

2nd ATF-EAAP LFS One-day symposium
EAAP Annual Meeting
Porto, Portugal
05th Sept. 2022

12th ATF Seminar
Brussels
17th Nov. 2022

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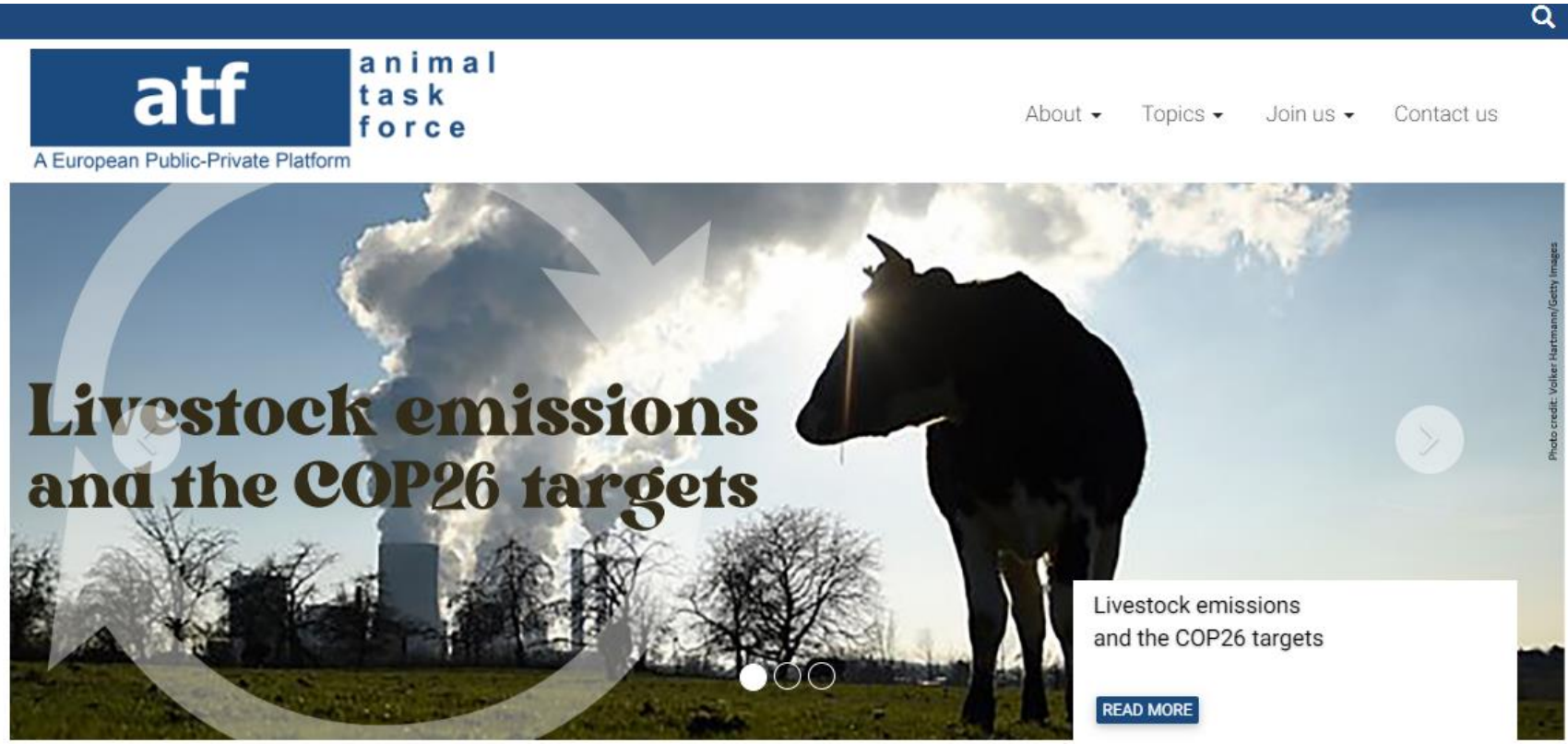
Reports, latest news, upcoming activities

www.animaltaskforce.eu



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