



HORIZON EUROPE



THE EU RESEARCH & INNOVATION PROGRAMME

2021 – 2027

NATHALIE SAUZE-VANDVYVER
DG Agriculture and Rural Development

JOHN BELL
DG Research and Innovation

CARLA MONTESI
DG International Partnerships



R&I priorities for the next years to make the vision for sustainable food systems a reality in the EU and globally



Horizon Europe Cluster 6 – from expected impacts to destinations...



DESTINATION – FARM2FORK: Fair, healthy and environment-friendly food systems from primary production to consumption



Enabling sustainable farming



Enabling sustainable fisheries and aquaculture



Transforming food systems for health, sustainability and inclusion



Targeted international cooperation

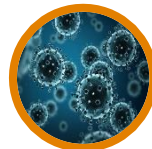
Enabling sustainable farming



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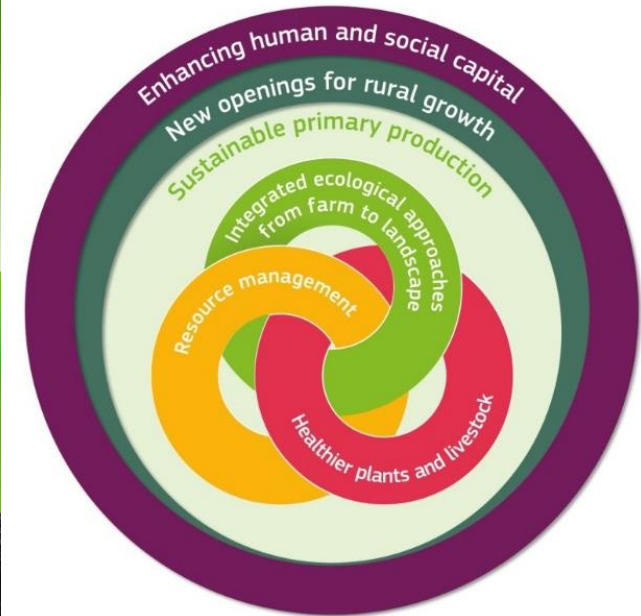
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Enabling sustainable farming

Examples of priority R&I actions in **destination FARM2FORK...**

R&I priorities 2021


- ✓ Developing sustainable and competitive land-based **protein crop** systems and value chains
- ✓ R&I scenarios for boosting **organic farming** and organic aquaculture in Europe
- ✓ **Digitalisation** as an enabler of **agroecological farming systems**
- ✓ Research & innovation roadmap for **blockchain** technologies in the agri-food sector
- ✓ Tackling outbreaks of **plant pests**
- ✓ EU-China international cooperation on **integrated pest management** in agriculture
- ✓ **Animal welfare 2.0**
- ✓ **Vaccines** and **diagnostics** for priority animal diseases
- ✓ **One health approach** for food nutrition security and sustainable agriculture
- ✓ Uncovering **lock-ins and levers** to encourage **farmers** to move to and stay in **sustainable food production systems**
- ✓ Towards an EU approach to assess and **internalise positive and negative externalities** of food for incentivising sustainable choices

R&I priorities 2022


- ✓ **Agroecological approaches** for sustainable weed management
- ✓ **Agroecological approaches** in African agriculture systems
- ✓ Innovative solutions to **prevent adulteration of food bearing quality labels**: focus on **organic** food and **geographical indications**
- ✓ Smart solutions for the use of **digital technologies** for small- and medium-sized, farms and farm structures
- ✓ Risk assessment of new **low risk pesticides**
- ✓ Socio-economics of **pesticide use** in agriculture
- ✓ Emerging and future **risks to plant health**
- ✓ **Enhancing biosecurity** in terrestrial livestock production
- ✓ **Ecology of infectious animal diseases**
- ✓ Support for international research on **infectious animal diseases**

Enabling sustainable farming

Examples of priority R&I actions
in **other destinations**...



- ✓ Demonstration network on **climate-smart farming**
- ✓ International Research Consortium on (agricultural) **soil carbon**




- ✓ Fostering **breeding** of organic crops, legumes and root-base traits



- ✓ Optimization of **nutrient budget** in agriculture
- ✓ EU-China international cooperation on **nature-based solutions** for **nutrient management** in agriculture



- ✓ **Smart solutions** for smart rural communities



- ✓ Supporting knowledge exchange between all **AKIS** actors in the Member States by means of an **EU-wide interactive knowledge reservoir**, thematic and advisory networks



Next Work Programme 2023-2024
– **large-scale R&I partnerships:**



Agroecology living labs and research infrastructures



Animal health and welfare



Agriculture of data

Transforming food systems for health, sustainability and inclusion

The European Green Deal

Farm to Fork

Food Loss & Waste Prevention, Sustainable Food Production, Sustainable Food Processing & Distribution, Sustainable food consumption

FOOD 2030 PATHWAYS FOR ACTION

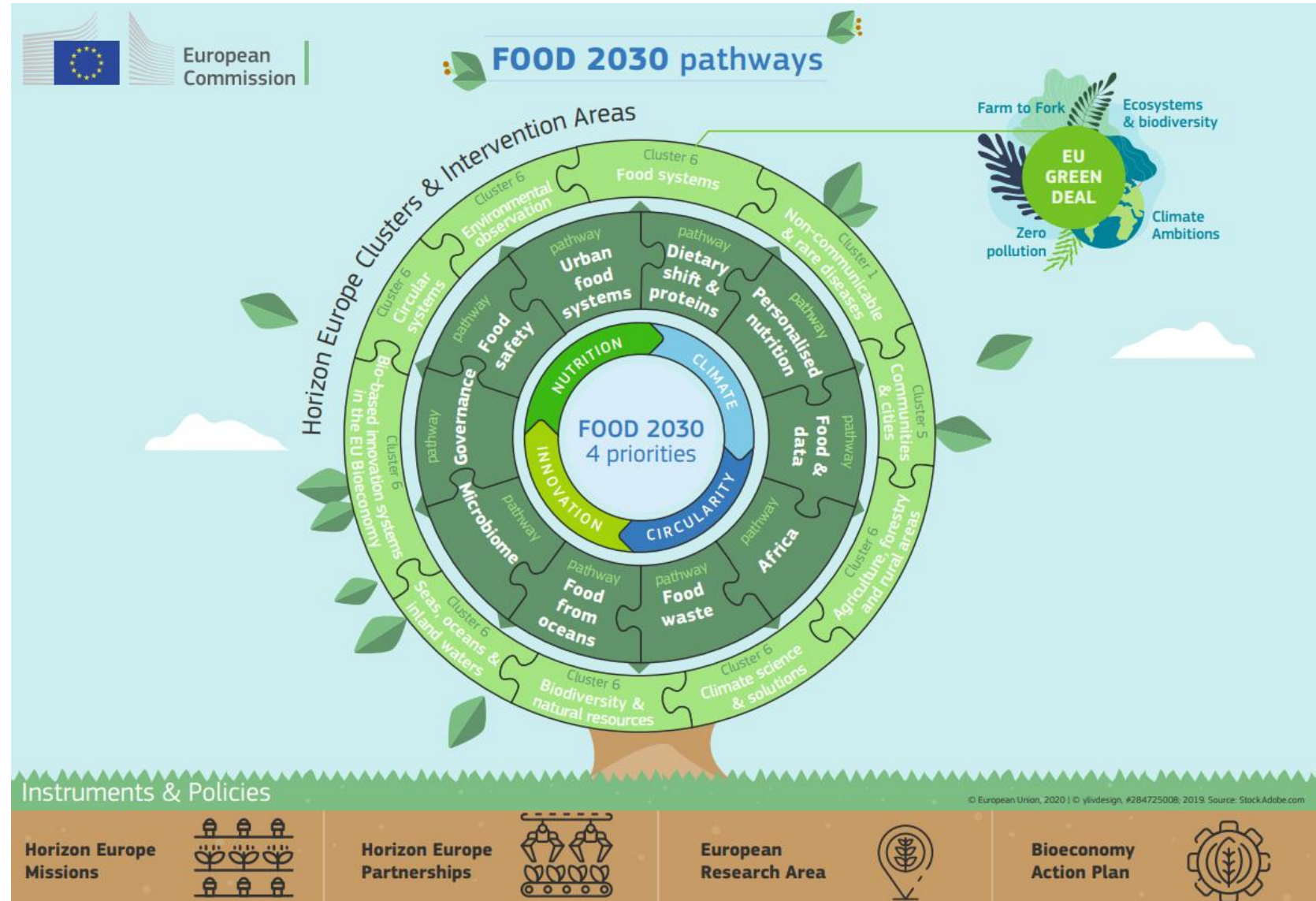
Research and innovation policy as a driver for sustainable, healthy and inclusive food systems

FOOD 2030

NUTRITION, CLIMATE, INNOVATION, CIRCULARITY

#FOOD2030EU

Research and Innovation



Transforming food systems for health, sustainability and inclusion

Examples of priority R&I actions in **destination FARM2FORK...**

R&I priorities 2021

- ✓ Filling knowledge gaps on **alternative proteins** and **dietary shift**
- ✓ Evidence-based decision-making to change social norms towards **zero food waste**
- ✓ **Microbes** for healthy and sustainable food and diets
- ✓ Transition to **healthy and sustainable dietary behaviour**
- ✓ Identification, assessment and management of existing and emerging **food safety** issues
- ✓ Increasing the **transparency of EU food systems** to boost health, sustainability and safety of products, processes and diets

R&I priorities 2022

- ✓ Building **alternative protein**-friendly sustainable and healthy food environments
- ✓ R&I for **food losses and waste** prevention/reduction through harmonised measurement/monitoring
- ✓ **Microbiomes** in food production systems
- ✓ Integrated surveillance system to prevent and reduce **diet-related non communicable diseases**
- ✓ Combatting all forms of **malnutrition**
- ✓ Effective systems for **authenticity and traceability** in the food system
- ✓ **African food cities**



Transforming food systems for health, sustainability and inclusion

Examples of priority R&I actions in **other destinations**...



- Integrated **urban food system policies** – how cities and towns can transform food systems for co-benefits
- Social innovation in **food sharing** to strengthen **urban communities' food resilience**



- Furthering **food systems science** and federating researchers across the European Research Area
- Mapping and improving the **data economy** for food systems

Next Work Programme 2023-2024 – **large-scale R&I partnership:**



Research and Innovation

Enabling sustainable fisheries and aquaculture

Examples of priority R&I actions in destination FARM2FORK...



R&I priorities 2021

Sea to fork transparency and consumer engagement

Digital transition supporting inspection and control for sustainable fisheries

R&I priorities 2022

Integrated and sustainable freshwater bioeconomy

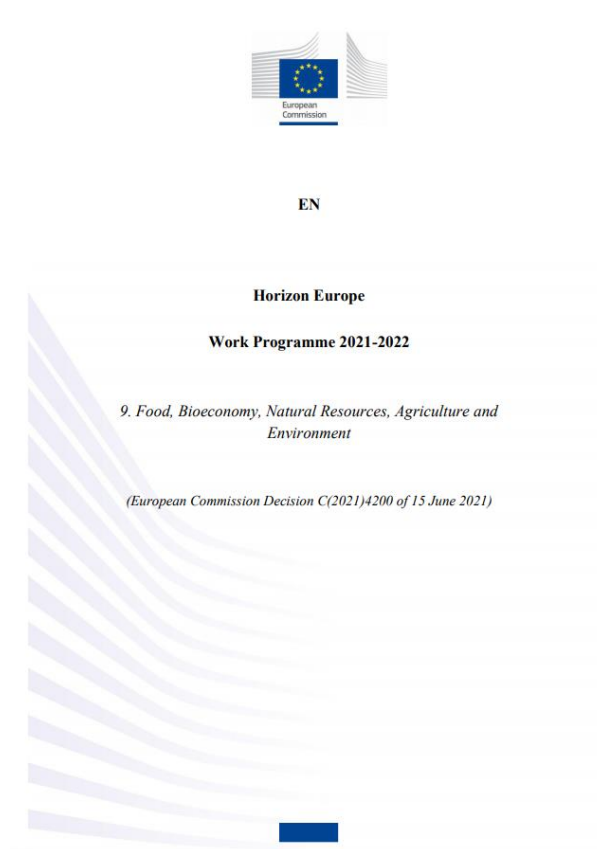
Biosecurity, hygiene, disease prevention and animal welfare in aquaculture

Innovative food from marine and freshwater ecosystems

Cluster 6 Work Programme 2021-2022

CHECK THIS OUT!

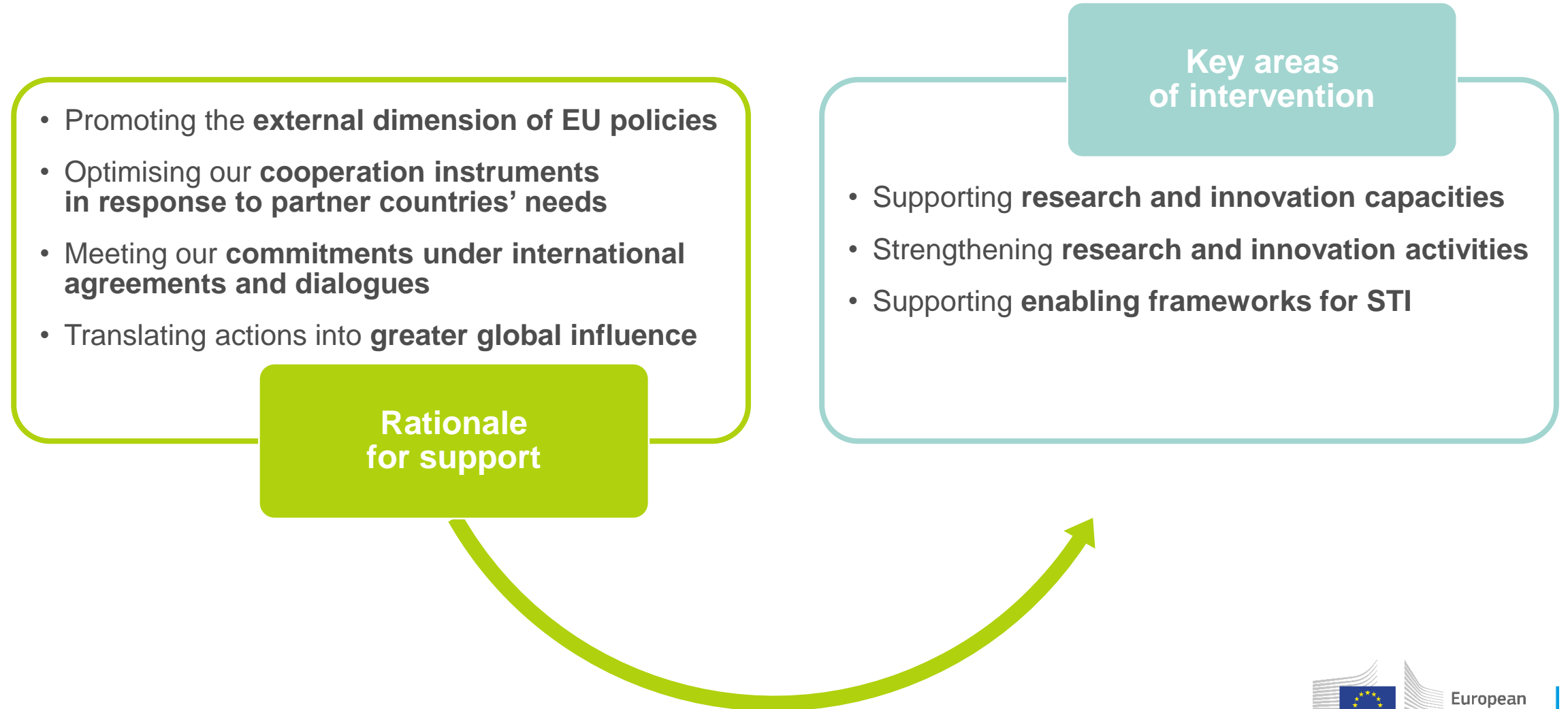
[wp-9-food-bioeconomy-natural-resources-agriculture-and-environment horizon-2021-2022 en.pdf \(europa.eu\)](https://ec.europa.eu/horizon/wp9-food-bioeconomy-natural-resources-agriculture-and-environment-horizon-2021-2022-en.pdf)



Science, technology and innovation for development beyond Horizon Europe



Science, technology and innovation for development



Investments in agriculture and food systems R&I for development



- Implemented through very diverse members of the research community: e.g. CGIAR centres, AIRCA centres, regional and international organisations, European universities and Advanced Research Institutes, NARS entities from partner countries, etc.
- Prevalence of agriculture in (*INTPA, former DEVCO*) R&I portfolio, with about 50% of €1.1 billion portfolio



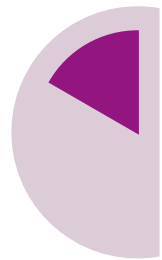
- Call for a more strategic vision for our investments: “**approach paper**” in agriculture research for development in Food and Nutrition Security and Sustainable Agriculture (2014) with:
 - ✓ an ambition to put more **research into use** and enhance **research impact for development**; and
 - ✓ an operational response through our **DeSIRA initiative**.

DeSIRA

Development-Smart Innovation through Research in Agriculture

Launched at the One Planet Summit (Paris, Dec. 2017)

with **€270 million** pledge for 2018-2020; **80+ projects** in Africa, Latin America and Asia



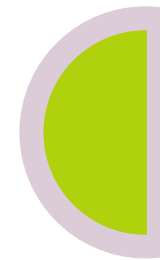
Research and innovation actions at country and regional/multi-country levels

Pillar 1



Research infrastructure and governance conducive to innovation

Pillar 2



Knowledge and evidence to feed policy design

Pillar 3

- ✓ Agriculture and **food systems transformation** in a **climate change** context
- ✓ **Agroecological** intensification and transitions, agroforestry, livestock systems, etc.
- ✓ Emphasis on **local capacity development**, agriculture and knowledge **innovation systems**, in response to **development need**

Perspectives under NDICI–Global Europe 2021-27 programming

NDICI – Global Europe will support R&I initiatives in support to the **external dimension of the Green Deal, and Farm to Fork**; and to **global and regional political dialogues**, such as EU–AU Dialogue on STI, through:

GLOBAL CHALLENGES envelope

REGIONAL envelopes
(e.g. STI and Green transition in Africa)

An example: recent €140 million pledge for CGIAR

“To succeed, knowledge, capacities, quality in the partnerships, contextualised innovations and coordinated global actions are of utmost importance.”



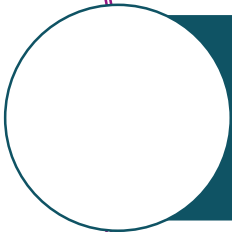
“... to scale up nature-based solutions and ecosystem-based approaches (e.g. agro-ecological and regenerative approaches, agroforestry, sustainable land management, etc.) to improve productivity based on ecological processes to contribute to economic, social and environmental sustainability.”

President Ursula Van der Leyen at Global Citizen Live event in Paris, 25/9/21

Concluding remarks



EU R&I policy supporting implementation of the Green Deal, and in particular the Farm to Fork Strategy is a **key driver in accelerating the transition to sustainable, healthy and inclusive food systems from primary production to consumption.**



EU R&I funding and policies are in place to support the R&I communities across all Member States, and are open to the world.



Europe is ready to **show leadership and engage in science diplomacy** in this area to convene diverse actors to **jointly tackle systemic issues.**

Thank you

