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Pathways for advocacy
An identification of the main influencer networks relevant to EU agriculture R&D

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Disclaimer: The arguments expressed in this report are solely those of the authors, and do not reflect the opinion of any other party.

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1. Introduction

The Fam Journal Foundation has commissioned this policy brief in order to inform an advocacy strategy in the EU in support of Agriculture R&D.

It is against that background that this policy brief first captures the EU innovation and research public expenditure's trends over the past decades with a focus on agriculture R&D after having identified the relevant EU policies for agriculture innovation in the European Union (chapter 2).

It then proposes a snapshot of Member states' national expenditures (chapter 3) and list the upcoming key political milestones affecting agriculture R&D policies (chapter 3).

It finally informs possible pathways for advocacy by including a map of key influencers of public research and innovation in Europe with a view to inform coalition building and partnerships (chapter 4).

2. A snapshot of EU funding for agriculture R&D

This section provides a snapshot of the main EU funds, mechanisms and policies used to support agricultural research and development (R&D) in the EU. In this context, the term used is research and innovation (R&I) which we have chosen to use interchangeably with R&D.

There are two main EU instruments supporting agricultural research and development (AGRI-R&D): Europe's flagship research and innovation programme, Horizon 2020 and the Common Agricultural Policy (CAP) (in particular Rural Development policy) which governs the majority of farming practice in the EU. In addition to these two main funding mechanisms, there are other EU policies and programs addressing innovation and skills development which can also contribute to agricultural research and innovation such as Cohesion policy, Eurostars, Cosme, Erasmus for young entrepreneurs, Erasmus + & LIFE + and to some extent COPERNICUS. These are described in more detail in the following sections.

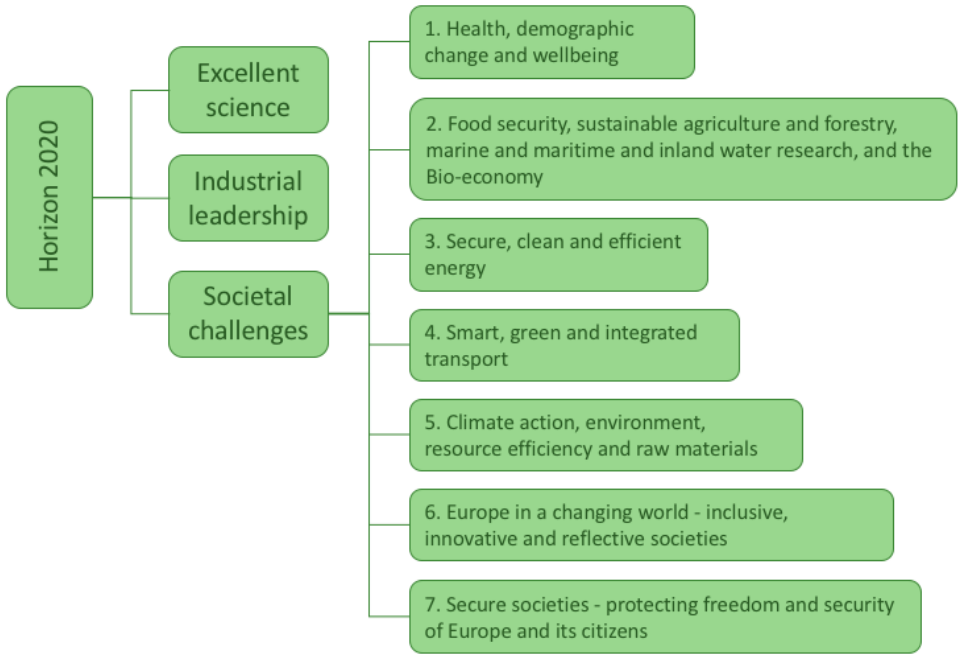
2.1 Key funding instruments for agriculture R&D in Europe:

1.1.1 Horizon 2020

Public funded research in the EU is governed by the EU framework programme for research and innovation, which for the current programming period (2014-2020) is called *Horizon2020. Horizon 2020* is the largest EU Research and Innovation programme ever funded in the EU with nearly **€80 billion of funding available over 7 years (2011 constant prices)**. Seen as a means to drive economic growth and create jobs, *Horizon 2020* has the political backing of Europe's leaders and the Members of the European Parliament. It is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness.

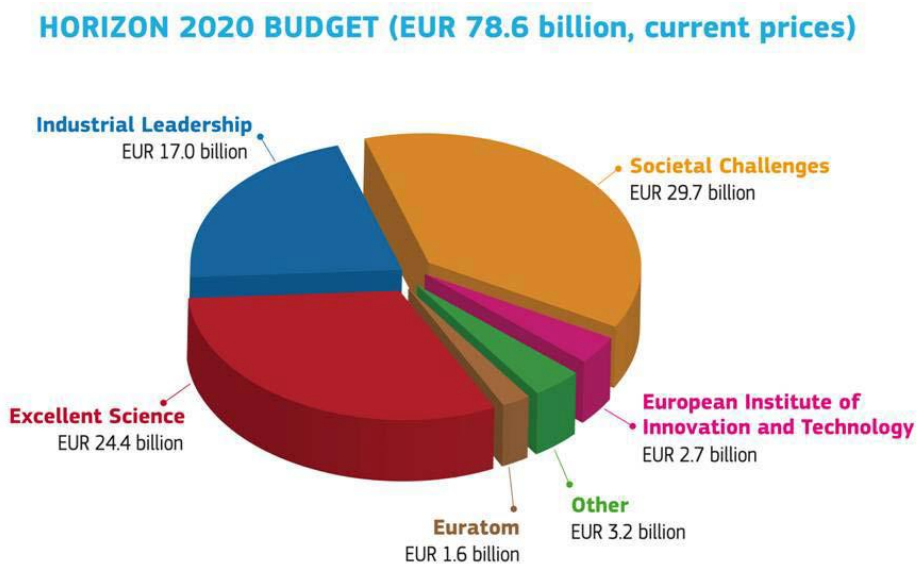
Horizon 2020 contains three mutually reinforcing priorities (article 5.2 regulation No 1291/2013): excellent science, industrial leadership and **societal challenges** (through which AGRI R&D is prioritised) (Figure 1)

Figure 1: Agriculture and food in the context of Horizon2020 priorities



The part of *Horizon 2020* which is the most relevant to agriculture and food is the societal challenge 2 focusing on "Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy". Themes tackled include the sustainable increase of productivity, fostering the delivery of ecosystem services, empowering rural people and developing sustainable forestry practices. As a whole, societal challenges represent around 38% (€29.7bn) of the *Horizon 2020* budget (Figure 2), with societal challenge 2 representing approximately 5% (**€4bn**).

Figure 2: Horizon 2020 budget share (2013)

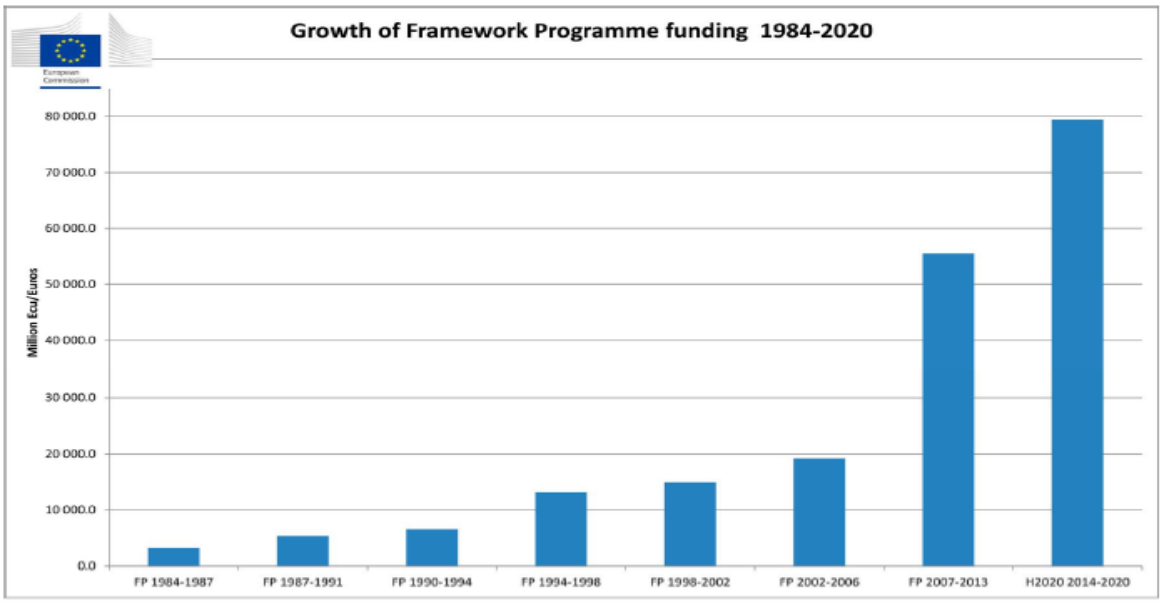


Source:
https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/Factsheet_budget_H2020_0.pdf

Figure 2 shows the evolution of the overall EU's research and innovation budget since 1984. Under Framework Programme 7 (2007-2013) the overall research budget was just over €50bn with €1.935bn (or ~4%) devoted to agriculture[1]. Whilst there has been a significant increase in the budget for the current period (2014-2020) at around 30% (in constant prices) and a doubling of the dedicated funding on agriculture within that same period, the agriculture budget share has only seen a 25% increase in comparison to overall research spend in the EU.

[1] Under FP7 (2007-2017) 'agriculture, fisheries and biotechnologies' budget was €1,935 million- it is worth noting that it is not straightforward to make a direct comparison between the two dedicated budgets as the categories covered by these budgets vary over time in light of changing EU priorities.

Figure 3: Growth of Research and Innovation programmes in the EU since 1984



Source: https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/Factsheet_budget_H2020_0.pdf

1.1.2 Common Agricultural Policy (CAP):

The CAP and its second Pillar in particular have a clear role to play in promoting and fostering innovation in farming. The CAP has shaped farming practices across Europe since its inception in the 1960s. Accounting for nearly 40% of current EU budget (around €58 billion a year) it consists of two 'pillars' through which expenditure is determined: Pillar 1 includes income support and market and price policy, and accounts for more than two-thirds of the CAP; Pillar 2 corresponds to the so-called Rural Development Policy in which research and development funding can be programmed.

The six priorities[2] of the current Rural Development Policy for 2014 to 2020 are:

1. fostering knowledge transfer and **innovation in agriculture, forestry and rural areas**
2. enhancing the viability and competitiveness of all types of agriculture, **and promoting innovative farm technologies** and sustainable forest management
3. promoting food chain organisation, animal welfare and risk management in agriculture
4. restoring, preserving and enhancing ecosystems related to agriculture and forestry
5. promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors
6. promoting social inclusion, poverty reduction and economic development in rural areas

Priorities for research and innovation are highlighted even further in the context of the future CAP post 2020. Based on the communication published in November 2017[3] (and which will be followed by legislative proposals in June 1 2018- see Figure 5) '*stimulating innovation and exchange of knowledge and practices*' have become key priorities of the farm policy post 2020. Unlike *Horizon 2020* in which goals and results are defined in advance, the CAP allows for interactive innovation models aiming at "*fostering innovation by favouring cooperation and knowledge flows between all research and innovation actors*" (EIP AGRI).

[2] These priorities are then divided further into sub-priorities called focus areas.

[3] https://ec.europa.eu/agriculture/sites/agriculture/files/future-of-cap/future_of_food_and_farming_communication_en.pdf

Current Rural Development policy is implemented through Rural Development Programmes (RDPs). These are co-financed, elaborated and managed by Member States or regional managing authorities in compliance with the European Rural Development Regulation. Managing authorities are able to use 20[4] different measures to address different priorities of their Member State or Region, based on a needs assessment and a SWOT[5] analysis. A variety of these measures can support innovation and research in agriculture, in particular the application of new approaches or support for purchasing new machinery (investments).

To date there is no consistent tracking of expenditures for knowledge and innovation as these are considered cross-cutting initiatives and therefore expected to be delivered in pursuit and contribute to other priority areas (for instance training to improve competitiveness)[6].

One of the most relevant measure to address research and innovation is Measure 16 ('M16'), known as the cooperation measure. Measure 16 aims to promote various forms of co-operation between rural actors, which often are at a disadvantage due to fragmentation (e.g. making it difficult to achieve economies of scale in developing new approaches). Through public support, M16 aims to help overcome these disadvantages by assisting operators in working together. It can support the establishment and running of operational groups of the European Innovation Partnership for agricultural productivity and sustainability (EIP-Agri), which is a key instrument for the development of innovation in rural areas in the EU (see Box 1).

Box 1: The European Innovation Partnership – with a focus on agriculture

Five European Innovation Partnerships have been launched in the context of the Innovation Union to help pool expertise and resources by bringing together public and private sectors at EU, national and regional levels, combining supply and demand side measures. All EIPs focus on societal benefits and fast modernisation. They support the cooperation between research and innovation partners so that they are able to achieve better and faster results compared to existing approaches.

The **European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI)** was established in 2012 and aims to foster a competitive and sustainable agriculture and forestry sector that "achieves more from less". It contributes to ensuring a steady supply of food, feed and biomaterials, and to the sustainable management of the essential natural resources on which farming and forestry depend, working in harmony with the environment. To achieve this aim, the EIP-AGRI brings together innovation actors (farmers, advisors, researchers, businesses, NGOs, etc.) and helps to build bridges between research and practice.

EIP-AGRI adheres to the "interactive innovation model" by creating so-called **Operational Groups**, which brings together specific actors (e.g. farmers, advisors, researchers, businesses, etc.) to work together in multi-actor projects to find a solution for a specific issue or developing a concrete opportunity.

EIP-AGRI plays a significant role in steering the agricultural research and innovation agenda in the EU by acting as the sectoral lead for the *Horizon2020* research funds. These are prioritised through the strategy for agricultural innovation[7] which sets out specific research headings and sub-priorities to which R&I expenditure should align.

Creating value from land - sustainable primary production

- Priority 1: resource management (notably soil, water, biodiversity)

[4] 19 distinct measures combined with 1 measures for technical assistance

[5] Strenghts Weaknesses Opportunities and Threats

[6] Page 5 https://ec.europa.eu/agriculture/events/2016/rural-development/fact-sheet.pdf

[7] https://ec.europa.eu/programmes/horizon2020/en/news/final-paper-strategic-approach-eu-agricultural-research-and-innovation

- Priority 2: healthier plants and animals
- Priority 3: integrated ecological approaches from farm to landscape level

Enhancing rural innovation - modernising rural territories and policies

- Priority 4: new openings for rural growth
- Priority 5: enhancing the human and social capital in rural areas

In addition to setting headline priorities for agriculture R&I expenditure, the EIP-AGRI network also provides a bottom-up mechanism to establishing research needs from practice through Operational Groups and acting as an innovation hub, through which stakeholders can raise their research needs.

1.1.3 Other sources of support

Beyond the two main funding streams for agriculture research and development in the EU, there are a number of other funds and instruments which are relevant in this context.

- **Cohesion Policy ->** The Cohesion Policy provides a framework for financing a wide range of projects and investments with the aim of encouraging economic growth in EU Member States and their regions. One of the two goals of Cohesion Policy is that of European Territorial Cooperation (ETC) (better known as 'Interreg'). ETC provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States. In its fifth period (2014-2020) ETC funds are targeted towards 11 investment priorities, a number of which are relevant to agricultural R&D, including 'Research and Innovation' and 'Environment and resource efficiency'.
- **Eurostars->** A joint programme supported by 33 countries supporting research-performing small and medium sized enterprises which develop innovative products, processes, and services to gain competitive advantage.
- **COSME ->** The Competitiveness of Enterprises and Small and Medium Sized Enterprises programme supporting SMEs in four different areas including Access to finance, Access to markets, supporting entrepreneurs and improving business conditions
- **Erasmus for young entrepreneurs**-> An EU programme which provides an opportunity for new entrepreneurs (which includes farmers) to spend up to 6 months working in an enterprise in another EU country.
- **Erasmus+ ->** An EU programme that focuses on Education, training, youth and sport and aims to increase knowledge and professional aptitudes and to support the modernisation of teaching and training systems
- **LIFE +** -> LIFE+ helps coordinate various sources of funding for environment and climate action, and fills gaps in environmental support by addressing environmental issues that are not dealt with by other EU Funds. It also helps find solutions to environmental and climate challenges faced by all sectors of society, including agriculture and forestry and provides a platform to discuss easy and cost-efficient ways of implementing EU environmental and climate legislation.

In addition to the programmes and funding mentioned above, **COPERNICUS** can also to some extent ease sustainable innovation in farming through free data provision. It is a European Programme aimed at developing free and open information services based on satellite Earth Observation and in situ (non-space-derived) data. It, in particular helps to assess agricultural land uses, change detections and their impacts on biodiversity and landscapes so to help public authorities and farmers improve farm management and policies by monitoring agricultural pressures on natural resources.

2.2 An overview of Member State expenditure in agriculture R&D

There can be significant variations in the estimates of national R&D expenditure depending on the databases used (Chartier et al, 2015; Bureau, 2018). Generally, it should be noted that Member States have different budget and accountability systems and therefore the methods used to report expenditure on R&D vary. The figures presented hereafter come from the two main databases available - Eurostat data and OECD data[8].

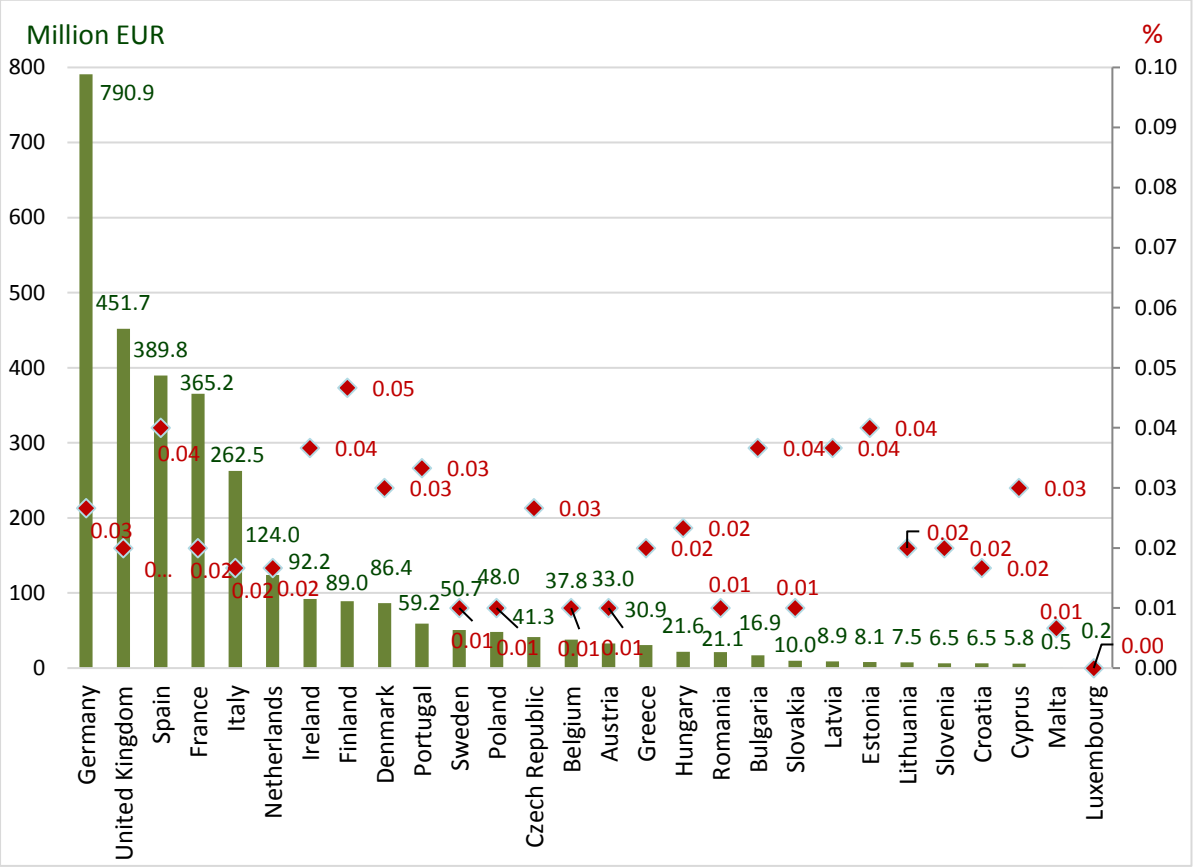
Eurostat collates yearly data from Member States to produce the Government Budget Appropriations or Outlays on R&D ('GBAORD') indicator, based on a methodology developed by the OECD[9]. The GBAORD indicator measures "government support to research and development (R&D) activities, or, in other words, how much priority Governments place on the public funding of R&D" (Eurostat definition). GBAORD covers not only government-financed R&D performed in government establishments but also government-financed R&D in three other national sectors (business enterprise, private non-profit, higher education) as well as abroad (including international organisations).

Public expenditure on R&D in agriculture[10] followed a fluctuating but overall declining trend in the EU in the past 8 years (although it increased slightly in 2015 and 2016). GBAORD indicator data by Eurostat show that government expenditure on agricultural R&D in the EU declined by 4.7% between 2008-11 and 2014-16. The OECD figures depict a similar picture for the 22 EU countries that are OECD members with public research funding on agriculture declining by 2.3% over the same period and after adjusting for inflation after the 2008 economic crisis[11][12]. The total public budget appropriations at EU level (sum of MS expenditures) went down from €3,244 million on average for 2008-11 to €3,092 million for 2014-16, which then corresponded to 0.02% of the EU's GDP. This declining trend is in clear contrast with the growing public expenditure devoted to agriculture R&D in other parts of the world[13]. It is also in contrast with the trend observed in EU funds as highlighted in the above section.

The analysis of the break down per Member State reveals that public agricultural R&D in the EU is highly concentred in five countries: Germany, UK, Spain, France and Italy (see Figure 4). Together these countries account for 73% of the EU total, with Germany alone accounting for 26% with €790.9 million spent on average for 2014-16. However, the largest spenders relative to their countries' economy in the EU (i.e. expenditure expressed as a % of GDP) show a different ranking with Finland coming first with 0.05% of its GDP spent on public agriculture R&D, followed by Bulgaria, Latvia, Estonia, Ireland and Spain with 0.04%. Finally, while the overall trend is in decline, some countries have increased their public expenditure on agriculture R&D in the past 8 years, in particular: Croatia, Poland*, UK*, France*, Belgium, Germany, Denmark, Sweden, Latvia and to a lesser extent, Malta*, Lithuania and Estonia*[14].

[8] Note that Eurostat and OECD use the same data collection system, for what concerns Member States of the EU. Data come from a joint OECD-Eurostat international data collection on resources devoted to RD.
[9] Based on the OECD's Frascati Manual (http://www.oecd.org/sti/inno/frascati-manual.htm)
[10] This Eurostat covers R&D in the field of agriculture but also forestry, fisheries and food.
[11] Government budget allocations for R&D – OECD indicator in current prices *https://stats.oecd.org/Index.aspx?DataSetCode=ONRD_COST#*
[12] Chartier et al (2015) estimate that total EU budgetary appropriations in agricultural R&D declined by 7% in current prices terms between 2008 and 2013. While the figures are different, these confirm the declining trend.
[13] ASTI figures compiled by the International Food Policy Research Institute show the impressive growth in agricultural R&D that took place in China and India and several other emerging countries.
[14] Countries marked with * indicates where the expenditure decreased in 2016 (the ranking is based on an average for 2014-16).

Figure 4: Public expenditure in agriculture R&D in EU Member States (3 year avg 2014-16)



Source: own compilation, based on Eurostat data

3. What's in the pipeline? Upcoming milestones

The current EU budget and its subsequent funds related to agriculture R&D run until the end of 2020. Discussions on the future of the EU budget, for the period post-2020, have already started with the publication by the European Commission of legislative proposals on the future EU Budget (2 May 2018). That proposal lays down the priorities and budget allocations for the next Multi-annual Financial Framework (MFF), covering the period **2021-2027**. The Commission notably proposes to increase investment in research and innovation by allocating €114.8 billion from the future long-term EU budget, of which €97.6 billion is allocated to '*Horizon Europe'*[15].

Within the new *Horizon Europe* framework (also referred to as 'Framework Programme 9 (FP9)), the Commission proposed that a total **of €10 billion** should support research and innovation in food, agriculture, rural development and the bioeconomy. This appears to be a substantial increase[16] in comparison with the **€4 billion** currently allocated for agriculture within *Horizon 2020.* At this stage, however, nothing is confirmed as these proposals and not legally binding at this stage and need to be agreed and adopted by the co-legislators.

The next step in this process is the negotiation and then the adoption by the co legislators (EU Parliament and Council of the EU) of the Commission's legislative proposals. This runs in parallel to the negotiations and the adoption of CAP legislative proposals as well as discussions on the future work programme for *Horizon Europe* (see figure 5). The President of the Commission has said that these budget negotiations should be given the utmost priority, and that an agreement should be reached before the European Parliament elections and the summit in Sibiu on 9 May 2019. However, given the political instability and BREXIT, meeting this deadline may be challenging.

The legislative proposals on CAP and the ones detailing out the content of the future of *Horizon Europe* should be published in June 1 and June 7 2018 respectively.

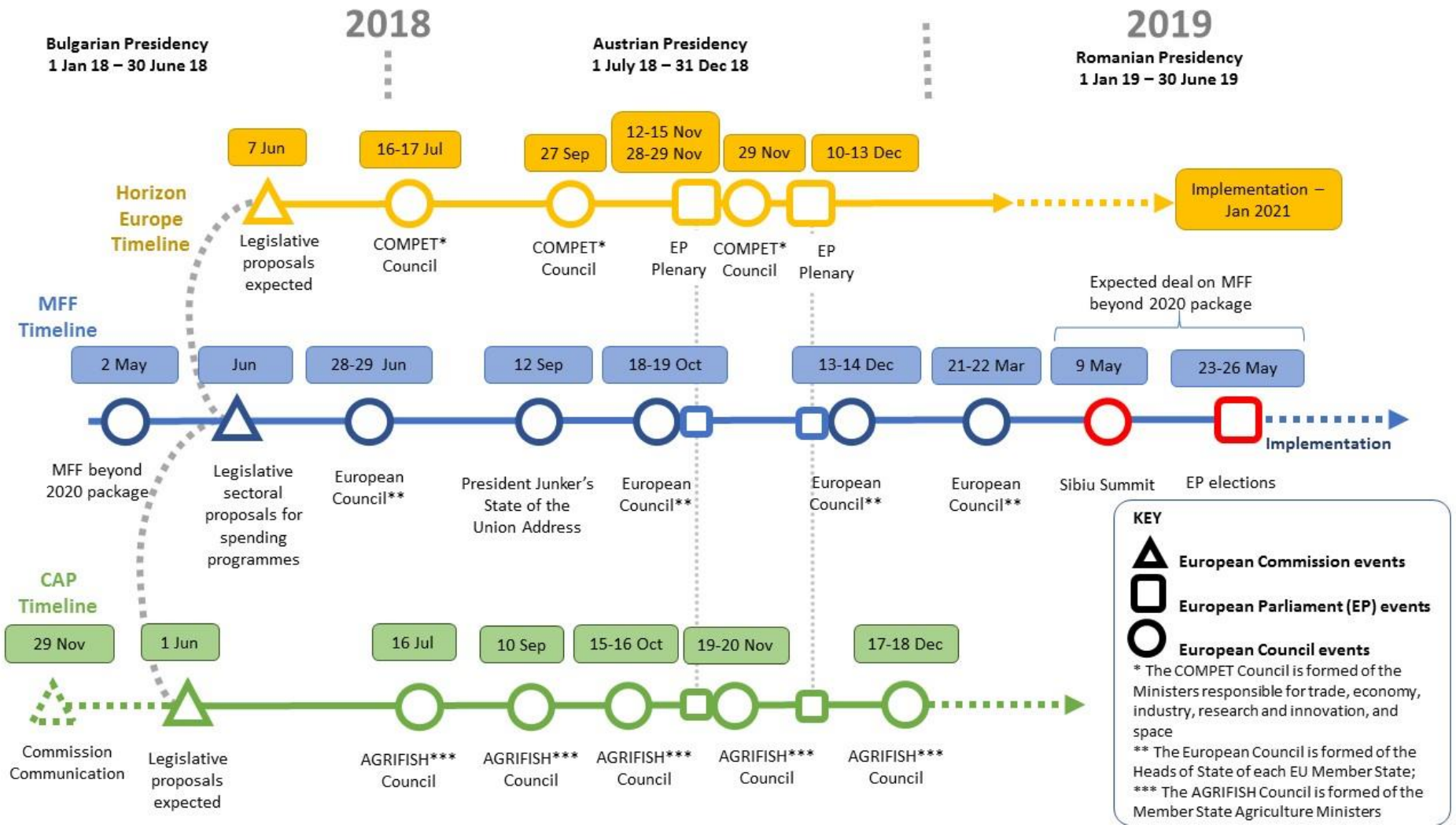
It is interesting to note that the Commission also published a communication focusing on innovation and in which it presents a set of concrete actions to boost the EU Research and Innovation agenda to inform the EU leaders meeting on innovation held in Sofia in May 16 [17]. It notably highlights in there that Innovation must be a central driver for EU policies and programmes for 2021-2027.

[15] The remainder being allocated to a digital programme, an international thermonuclear experimental reactor, Euratom Research and Training Programme and the InvestEU fund.

[16] It is possible that as with the evolution of the previous Framework programmes the agriculture sub categories' may vary, making the comparison between programmes difficult

[17] https://ec.europa.eu/commission/sites/beta-political/files/communication-europe-chance-shape-future_en.pdf

Figure 5: Timeline of key political milestones related to agriculture R&D in the EU



Note: the red circle and square indicate the Commission's own deadline for a political agreement on MFF

4. Power mapping analysis of key influencers in EU agriculture R&D

Figure 6: Main influencer bodies in EU agriculture R&D and their relationship

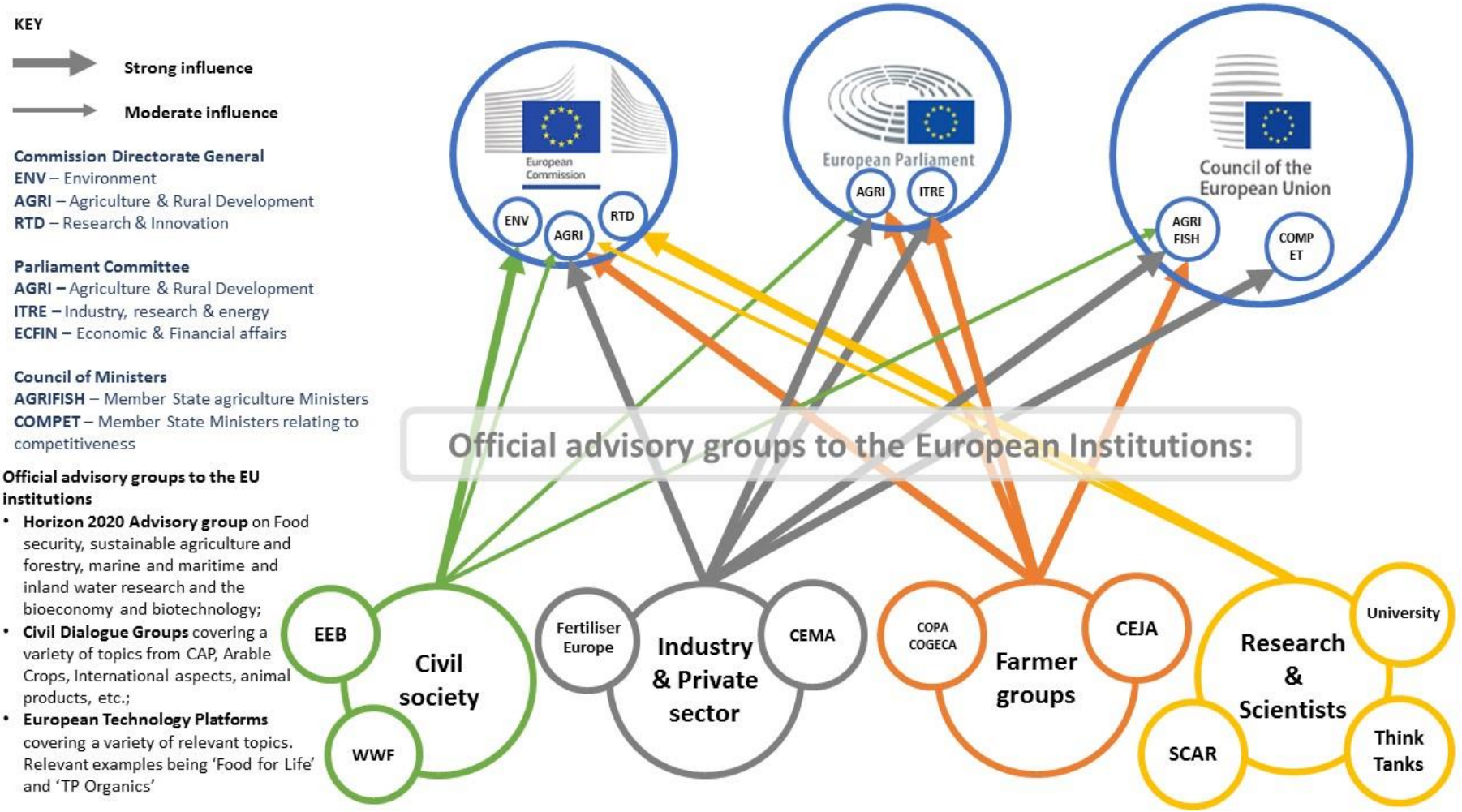
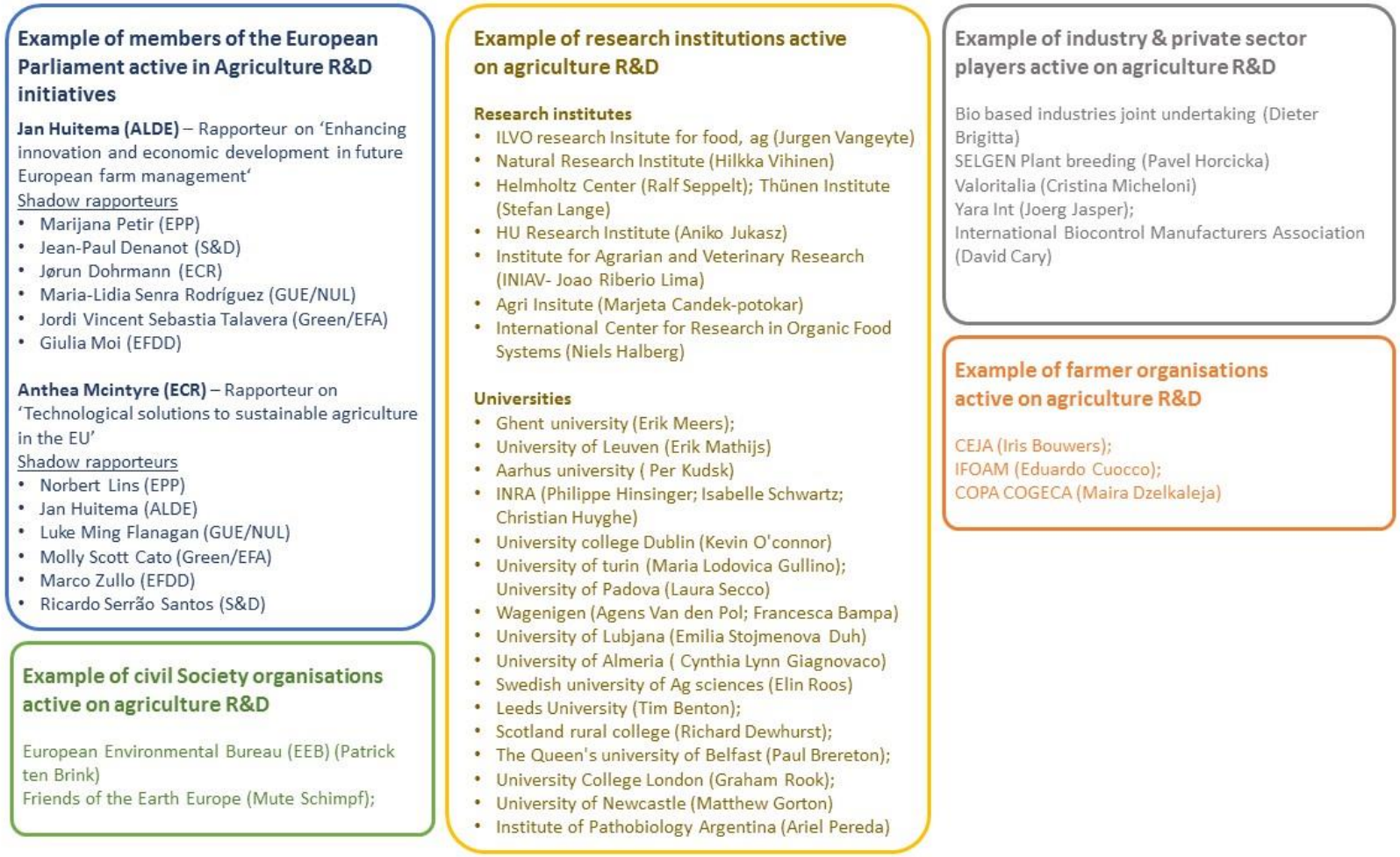


Figure 7: A snapshot of some influential individuals and organisations in EU agriculture R&D



Note: It should be noted that some Media Networks play a key role in fostering discussion on innovation and policy such as Euractiv

Annex 1: List of abbreviations used in this document

AGRI Committee or COMAGRI:	European Parliament's Committee on Agriculture and Rural Development
AGRIFISH Council:	Agriculture and Fisheries Council configuration
CAP:	Common Agricultural Policy
CDG:	Civil Dialogue Group
CEMA:	European association representing the agricultural machinery industry in Europe
CEJA:	European Council of Young Farmers
COMPET	Council: Competitiveness Council configuration
Copa-Cogeca:	Union of European farmers and European cooperatives
DG AGRI:	European Commission's Directorate-General for Agriculture and Rural Development
DG ENV:	European Commission's Directorate-General for Environment
DG RTD:	European Commission's Directorate-General for Research and Innovation
EC:	European Commission
ECFIN Committee:	European Parliament's Committee on Economic & Financial affairs
EEB:	European Environmental Bureau
EIP-Agri:	European Innovation Partnership for Agricultural productivity and Sustainability
EP:	European Parliament
ETP:	European Technology Platform
EU:	European Union
EUR:	Euro
FP:	Framework Programme
GBAORD:	Government Budget Appropriations or Outlays on Research and Development
GDP:	Gross Domestic Product
ITRE Committee:	European Parliament's Committee on Industry, Research and Energy
MFF:	Multi-annual Financial Framework
MS:	Member States
NGO:	Non-Governmental Organisation
OECD:	Organisation for Economic Co-operation and Development
OG:	Operational Groups (under EIP-Agri)
R&D:	Research and Development
R&I	Research and Innovation
RDP:	Rural Development Programme
SCAR:	Standing Committee on Agricultural Research
SMEs:	Small and Medium-sized Enterprises
WWF:	World Wide Fund for Nature