



TOPSECTOR
HORTICULTURE & STARTING MATERIALS



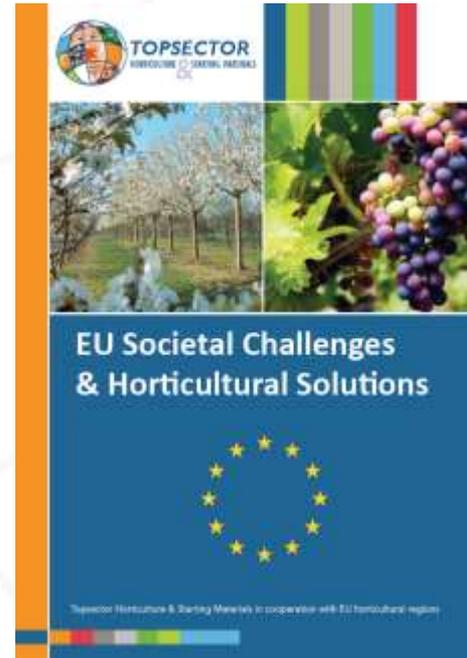
Topsector Horticulture & Starting materials NL - EU

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Activities of EU network Horticulture

- Building a common Strategic Innovation Agenda
- Building a **triple helix network of Horticultural clusters** in the EU, together with ERIAFF and PIC (France)
- Strategic input and recommendations to public consultations of the EC
- Active participation in **EIP-Agri, S3 Agrofood Platform** and H2020 projects (e.g. NEFERTITI)
- Alignment with other EU organizations, such as AREFLH, Freshfel, Euftrin, Euvrin, Copa-Cogeca, ESA etc.





Important Topics for Horticulture

- Health and wellbeing
 - Nutrition security: a healthy diet with vegetables and fruit
 - Greening the city, green environment
- Sustainable production
 - Resource efficiency, climate resilience
- Clean and efficient energy
- Smart, green multi-modal transport systems
- High Tech for competitiveness & challenging work
- Valuable food & health ingredients for the biobased economy

Health and wellbeing

Horticulture provides vital food for humanity bringing both health and nutritional benefits. It is well established that healthy diets improve the learning capacity of children and the productivity of workers. There is also a wide variety of positive effects from lifestyle horticulture on urban climate, i.e. improved air quality and reduction of 'heat islands', and wellbeing of humans, i.e. reduced stress, improved learning and accelerated healing processes.



Sustainable production

Fresh water and fertilizer resources are limited. Consequently, it is vital to develop systems that optimize the use of water and other critical inputs that are used in food production. In a controlled environment with irrigation or recirculation a further decrease in inputs is possible. Horticulture is a front runner in the development of such growing systems. There is also a transition needed to 'green chemicals' for biocontrol of plant diseases.



Clean and efficient energy

A part of the production of horticulture takes place in highly controlled greenhouses and tunnels. For such growing environments energy costs account for approximately 25% of the production costs throughout Europe. Horticulture is a front runner in the use of renewable energy, i.e. solar, geothermal and industrial waste heat, and horticulture can be part of smart energy grids.





Horticulture needs R&I support



- Horticulture needs recognition of its growing societal and economic value
 - Support H2020 needed for leverage and impact of R&I
 - Not only for food crops, but also for non-food sectors
 - Not only for SC2, but also other Societal Challenges
 - Horticulture is and can stay front runner for agricultural research at large

Design Horizon Europe (FP9)

EU office, Wageningen University & Research



Horizon Europe

Is the Commission proposal for a **100 billion euro** research and innovation funding programme for seven years (2021-2027)



to strengthen the EU's scientific and technological bases



to boost Europe's innovation capacity,
competitiveness and jobs



to deliver on citizens' priorities and sustain our socio-economic model and values.

STRUCTURE HORIZON EUROPE



Open Science



**Global Challenges and
Industrial Leadership**



Open Innovation

Strengthening the European
Research Area (ERA)

Structure Horizon Europe



Horizon Europe: Structure like Horizon2020

- **Pillar I: Open Science (€25.8 million)**
- **Pillar II: 'Global Challenges and Industrial Competitiveness' (5) and missions. (€52.7 million)**
- **Pillar III: Open Innovation / European Innovation council**
Europe should take the lead in **disruptive innovation** leading to a novel sustainable economy. (€13.5 million)
- **Horizontal pillar 'Strengthening the European Research Area'**
(including Teaming, Twinning, ERA-chair and COST) (€2.1 million)

H2020 Europe: Pillar II Global Challenges

- Research and innovation under this pillar is grouped into **integrated clusters of activities**. **Rather than addressing sectors**, the investments aim at **systemic changes** for our **society and economy** along a **sustainability vector**. *These will only be achieved if all actors, both private and public, engage together, scientists, technologists, producers, innovators, educators and citizens.*
Therefore, none of the thematic clusters is intended for only one set of actors.
- Clusters will aim at **exploiting European strengths** and assets by generating **new knowledge and translating it into useful innovations**, applying **digital and key enabling technologies**. This will include the **necessary support to pilot lines and demonstrators**, measures to stimulate **market uptake** and to **boost private sector** commitment.

Global Challenges & Industrial Competitiveness

Clusters	Implemented through usual calls, missions & partnerships	2021-24
Health	Health throughout the life course; Environmental and social health determinants; Non-communicable and rare diseases; Infectious diseases; Tools, technologies and digital solutions for health and care; Health care systems	
Inclusive and Secure Societies	Democracy; Cultural heritage; Social and economic transformations; Disaster-resilient societies; Protection and Security; Cybersecurity	
Digital and Industry	Manufacturing technologies; Digital technologies; Advanced materials; Artificial intelligence and robotics; Next generation internet; High performance computing and Big Data; Circular industries; Low carbon and clean industry; Space	
Climate, Energy and Mobility	Climate science and solutions; Energy supply; Energy systems and grids; Buildings and industrial facilities in energy transition; Communities and cities; Industrial competitiveness in transport; Clean transport and mobility; Smart mobility; Energy storage	
Food and Natural Resources	Environmental observation; Biodiversity and natural capital; Agriculture, forestry and rural areas; Sea and oceans; Food systems; Bio-based innovation systems; Circular systems	
Joint Research Centre	supports European policies with independent scientific evidence and technical support throughout the policy cycle	2021-27

Five Global Challenges (€52.7 billion)

- Global Challenge 1: **HEALTH** (€7.7 billion)
- Global Challenge 2: **RESILIENCE AND SECURITY** (€2.8 billion)
- Challenge 3: **DIGITAL AND INDUSTRY** (€15 billion)
- Global Challenge 4: **CLIMATE, ENERGY AND MOBILITY** (€15 billion)
- Global Challenge 5: **FOOD AND NATURAL RESOURCES** (€10 billion)
- Horizontal Pillar 'STRENGTHENING THE EUROPEAN RESEARCH AREA' (*Teaming, Twinning, ERA-chair, COST*)

Global Challenge 5: Food and Natural resources

- Agriculture research is to get a big boost in the 2021 – 2027 budget, with **€10 billion** to be invested in a collaborative effort to spread the use of big data in farming, to ensure the traceability of foodstuffs and to provide better scientific advice on food safety.
- According to the Commission's budget proposal, the Common Agricultural Policy (CAP) will see a 5 per cent cut in direct subsidies paid to farmers to ensure a safety net, **but research dedicated to the sector will rise from €6 billion under Horizon 2020, to €10 billion in the next budget cycle.**

Global Challenge 5: Food and Natural resources

- This Cluster addresses the **three interlinked dimensions** of sustainable development – **environmental**, **social** and **economic**.
- Human activities are exerting **increasing pressure on soils, seas and oceans, water, air, biodiversity** and other natural resources. ...However, combined with **climate change**, humanity's growing demand for **natural resources** creates **environmental pressures** that go far beyond sustainable levels, affecting **ecosystems** and their capacity to provide services for human well-being. The concepts of the **circular economy**, the **bioeconomy** and the **blue economy** provide an opportunity **to balance environmental, social and economic goals** and to set human activities on a **path to sustainability**.

Global Challenge 5 'Food and Natural resources': Areas of Intervention

5.2.1 Environmental observations (*EO, GEOSS*)

5.2.2 Biodiversity and Natural Capital (*link biodiversity and ecosystems services*)

5.2.3 Agriculture, Forestry and Rural areas (*DG-Agri*)

5.2.4 Sea and Oceans (*Blue economy*)

5.2.5 Food Systems (*Food2030*)

5.2.6 Bio-based Innovation Systems (*BIC*)

5.2.7 Circular systems (*Bioeconomy?*)

Horizon Europe: missions (1)

- No **separate budget** for missions: part of global challenges budget. In regulation **indication for budget** 'missions'
- Missions strongly linked to SDG's UN
- **Mazzucato** report came up with **5 criteria for missions** and a public consultation
- **September 2018** EC determines **broad areas** for the **missions probably by a staff Working Document**
- Set up of **Missions boards** which will be responsible for 'working out' **the specific missions with in a mission area**

Horizon Europe: missions (2)

- **In 2019:** co-design of the **concrete missions** by coordination between Member States and consultation of stakeholders
- End 2019 / beginning 2020 **proposal for missions completed**
- **Formalising of the missions** will be done in the first Work programme of Horizon Europe (2021-2022)
- The commission foresees **to publish** the first work programme Horizon Europe (2021-2022) **around summer 2020.**

Conclusions

- **Horizon2020 calls 2019 and 2020** still offer opportunities
- **Horizon Europe** is under construction and under **tough discussions** (*i.e. MS, DG's, European Parliament*): need for smart lobby especially for the **missions!!!**
- Research and Innovation seems high on the political agenda in Brussels
- Horizon Europe will build on the strength of H2020
- **Budget** will hopefully increase; budget for Agrifood seems to increase from 6 to 10 billion Euro
- Role **citizens and industry** will be more important, SDG's UN important driver.
- **Cross-sectoral, multi-disciplinary** and **systems approaches** needed
- **Social and economic impact** will be even more important

*Thank you for
your attention*

