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# Horizon 2020 Work Programme for Research & Innovation 2018-2020

Infoday, 14 November 2017

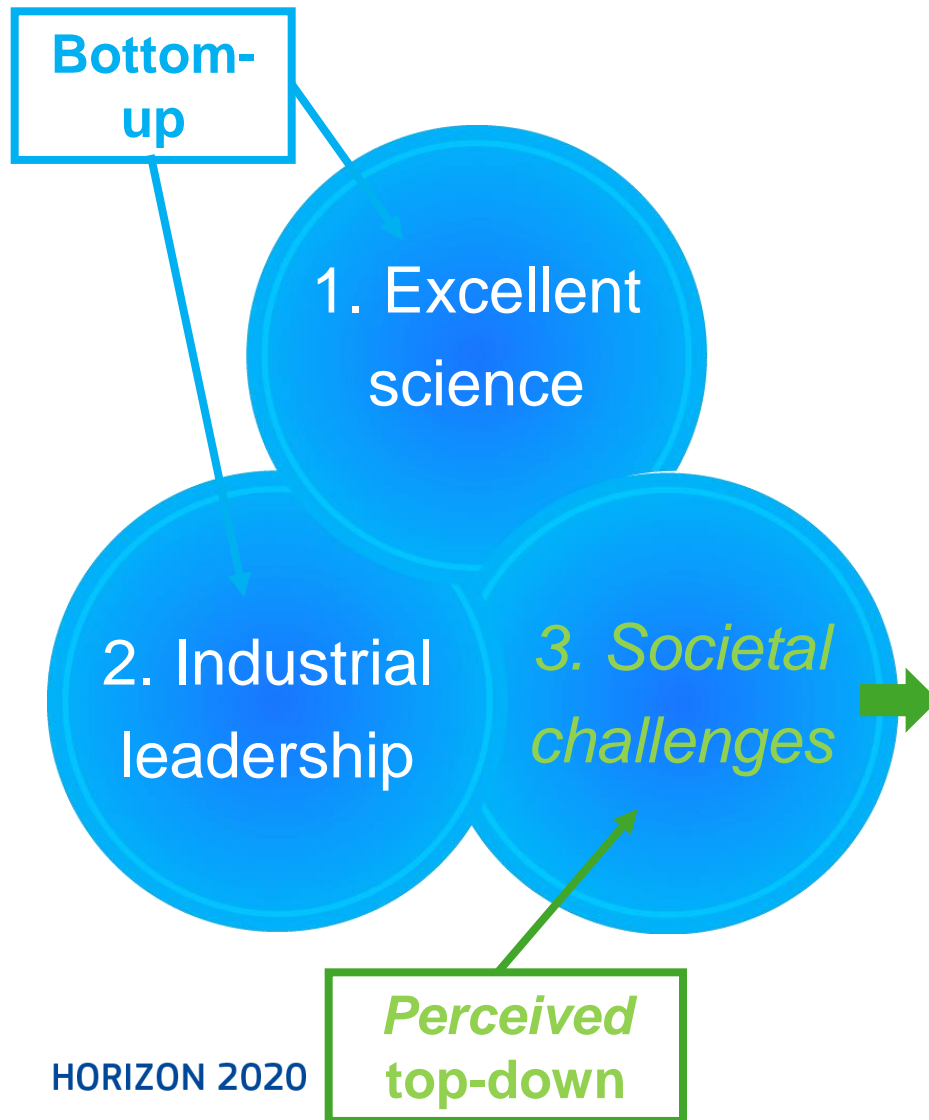
**SFS call**

From functional ecosystems  
to healthy food

Jean-Charles CAVITTE, UNIT B2  
European Commission – DG AGRI

Research and  
Innovation

# Horizon 2020 Overall Structure



1. Health, demographic change and wellbeing

2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

EU 3.851 billion (including JTI BBI )

3. Secure, clean and efficient energy

4. Smart, green and integrated transport

5. Climate action, resource efficiency and raw materials

6. Inclusive, innovative and reflective societies

7. Secure societies

# SFS-07-2018: Making European beekeeping healthy and sustainable

## Background (1)

- **Apiculture** provides private and public goods and services.
- **Uncertainty** on the combined effect of different stressors on bee health, especially colony losses.
- The European Food Safety Authority (EFSA) is developing an **integrated risk assessment** through the Multiple Stressors in Bees (MUST-B) project.
  - **a toolbox** to assess honey bee colony health in a holistic way (EFSA Journal 2016; 14(10):4578, 241 pp. doi:10.2903/j.efsa.2016.4578). This conceptual framework, the Health Status Index, needs further work to become operational.
- EFSA organised a **scientific symposium** 'Collecting and sharing data on bee health: towards a European Bee Partnership'. See EFSA event report (supporting publication 2017:EN-1299. 34 pp.).
- *There was general agreement on the **overall benefits of data sharing**, recognizing the various challenges associated with data access and collection.*



# SFS-07-2018

## Background (2)

A number of recent/on-going projects/initiatives on bee related issues, notably health/pollination, e.g.:



**Bee Health Workbench** (DG CNECT, <http://bees-dashboard.azurewebsites.net/BeesHome.html> )

**IoBee** - Beehive health IoT application to fight Honey Bee Colony Mortality  
[http://cordis.europa.eu/project/rcn/210011\\_en.html](http://cordis.europa.eu/project/rcn/210011_en.html)

**SPACERADARPOLLINATOR** - Space use by bees- radar tracking of spatial movement patterns of key pollinators [http://cordis.europa.eu/project/rcn/185402\\_en.html](http://cordis.europa.eu/project/rcn/185402_en.html)

**ERA-NET SUSAN: Bpractices** - New indicators and on-farm practices to improve honeybee health in the Aethina Tumida ERA in Europe



# SFS-07-2018

## Background (3)

Existing networks e.g. **COLOSS**, **SUPER-B**



COLOSS  
*honey bee research association*



New project selected under SFS-16-2017: 'Bee health and sustainable pollination', and possibly under SFS-28-2017: 'Functional biodiversity – productivity gains through functional biodiversity: effective interplay of crop pollinators and pest predators'

## Evaluation of the EU's apiculture measures

([http://ec.europa.eu/agriculture/evaluation/market-and-income-reports/apiculture-2013\\_en](http://ec.europa.eu/agriculture/evaluation/market-and-income-reports/apiculture-2013_en))

**EU initiatives** (EPILOBEE [http://ec.europa.eu/food/animals/live\\_animals/bees/study\\_on\\_mortality/index\\_en.htm](http://ec.europa.eu/food/animals/live_animals/bees/study_on_mortality/index_en.htm));  
EURL, JRC

# SFS-07-2018



## Requirements to keep in mind

- Develop **ready-to-use tools** to operationalise the 'Health Status Index' developed by EFSA (including: select the most promising and relevant indicators; validate technologies for monitoring colonies and indicators in an automated or semiautomated way);
- Create an **EU platform** to collect and share knowledge of science and practice related to honeybees, their environment and agricultural and beekeeping practices, in order to develop and implement an action plan for a coordinated and harmonised approach;
- **Pilot study** in different representative European countries to test, standardise and validate methods
- Give appropriate **feedback to beekeepers** both through dissemination and training;
- Perform **statistical analyses** of the relative importance of relevant biological, chemical and environmental stressors affecting bee health and their pollination services.



# SFS-07-2018

## Cross-cutting issues

- **Multi-actor approach** bringing together beekeepers, bee inspectors, other stakeholders (e.g. plant growers) and scientists (including social scientists) is required. multi-actor approach.

(footnote in the work-programme: corresponding requirements)





# Connecting policies: overview of EIP-AGRI

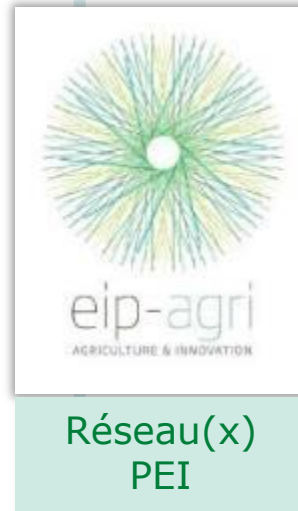
## CAP / Rural Development (regional/country level)



*Support to:*

**OG projects**

**Innovation systems**



(Projets européens)

- **Research & Innovation projects**
- **Multi-actor projects & thematic networks**  
(interactive innovation)



Involving OG is highly recommended

Disseminate results







## Topic SFS-16-2017: Bee health and sustainable pollination

- **RIA; €9million;** 2 stage selection; *deadline submission full proposals 13/09/2017*
- **'multi-actor approach'**. .../...Projects should ensure appropriate dissemination to the breeding and professional sectors and other relevant stakeholders to facilitate uptake of results.
- "There should be **cooperation as appropriate with relevant initiatives**, e.g. in the context of MUST-B, and other funded projects in this field, e.g. those selected under SFS-28-2017."
- "Research will focus on hazard identification for **managed and wild bees, social and solitary bees**, focusing mainly on exposure and risk characterisation of mixtures of chemicals for bee health. It will take into account the presence or absence of main pathogens../...and will develop molecular markers using omics technologies. Moreover, it will also take into account the aspect of nutrition and its interplay with the other two stress factors since it has been shown that quality of diet plays an important role in bee health.../... "

NB: topic inspired by the EU scientific workshop on bee health and sustainable pollination organised by DG AGRI with the support of EFSA (<http://onlinelibrary.wiley.com/doi/10.2903/sp.efsa.2016.EN-1026/full> )



## Topic SFS-28-2017: Functional biodiversity – productivity gains through functional biodiversity: effective interplay of crop pollinators and pest predators

- **RIA; €10million;** 2 stage selection; *deadline submission full proposals 13/09/2017*
- Proposals will use transdisciplinary research methods and should fall under the concept of the '**multi-actor approach**', involving the farming sector with a view to generating cross-fertilisation and co-ownership.
- Proposals will explore the **functional role of biodiversity in the delivery of ecosystem services**, in particular the spatial and temporal interactions between plants/animals as pollinators and natural enemies of pests. They will help to improve understanding of the factors and mechanisms that govern the delivery of such services, including agricultural management and landscape characteristics.../...
- .../...Proposals should establish a farm-level observatory and knowledge-exchange network on biological control and pollinator services linking with the European Innovation Partnership with a focus on innovative system solutions for short- and long-term needs.../...



# FP7 projects

At least 20 projects addressing wholly or partly bees and/or pollinators/pollination:

- FP7-**KBBE** - Specific Programme 'Cooperation' - Research Theme: 'Food, agriculture and fisheries, and biotechnology' : **AMIGA, BEE DOC, LIBERATION, QUESSA, SMARTBEES**
- FP7-**ENVIRONMENT** - Specific Programme 'Cooperation'- Research Theme: 'Environment (including climate change)' : **STEP**
- FP7-**SME** - Research theme: Research for the benefit of SMEs: **APIFRESH, CLEANHIVE, ECOSYN, SWARMONITOR**
- FP7-**IDEAS-ERC** - Specific Programme 'Ideas' implementing the Seventh Framework Programme: **FLORSIGNALS, SPACERADARPOLLINATOR, VIBES**
- FP7-**PEOPLE**-Marie Curie Actions: **BEEFUN, BEESPATNET, ColonyPersPOLs, DYVERSE, FLORDETERSIGNALS, NEUROBEECOG2012, Pynamite**

Cumulative EU contribution: EUR 39million (around half focussed on honey bees)

COST Actions: **COLOSS, SUPER-B**



# Some FP7 projects



BEE DOC

Bees in Europe & the Decline Of honeybee Colonies



COLOSS  
honey bee research association



QuESSA



amiga



## FP 7 : On-going projects

- **SMARTBEES** – Sustainable Management of Resilient Bee populations (2014-2018) [http://cordis.europa.eu/project/rcn/192071\\_en.html](http://cordis.europa.eu/project/rcn/192071_en.html) - KBBE
- **SPACERADARPOLLINATOR** - Space use by bees– radar tracking of spatial movement patterns of key pollinators (2014-2019) [http://cordis.europa.eu/project/rcn/185402\\_en.html](http://cordis.europa.eu/project/rcn/185402_en.html) - ERC
- **BeeFun** - pollinator responses to global change and its implications for ecosystem function (2014-2018) - [http://cordis.europa.eu/project/rcn/186904\\_en.html](http://cordis.europa.eu/project/rcn/186904_en.html) - MCA

## COST Action

**SUPER-B** – Sustainable Pollination in Europe: joint Research on Bees and other pollinators (2014-2018)

[http://www.cost.eu/COST\\_Actions/fa/FA1307](http://www.cost.eu/COST_Actions/fa/FA1307); <http://www.superb-project.eu/>



# Horizon 2020 projects: honeybees

- **BeeDanceGap** - Honeybee communication: animal social learning at the height of social complexity (2016-2021) - [http://cordis.europa.eu/project/rcn/193605\\_en.html](http://cordis.europa.eu/project/rcn/193605_en.html) - ERC
- **Hapi** - Hyperthermia in Apiculture - A new product against the Deformed Wing Virus of honey bees (2017) - [http://cordis.europa.eu/project/rcn/210654\\_en.html](http://cordis.europa.eu/project/rcn/210654_en.html) - SC2/SME
- **IoBee** - Beehive health IoT application to fight Honey Bee Colony Mortality (2017-2020) - [http://cordis.europa.eu/project/rcn/210011\\_en.html](http://cordis.europa.eu/project/rcn/210011_en.html) - FTIPilot
- **MicroBeeOme** - Evolution of honey bee gut microbiome through bacterial diversification (2017-2022) - [http://cordis.europa.eu/project/rcn/206057\\_en.html](http://cordis.europa.eu/project/rcn/206057_en.html) - ERC
- **MICRO4BEE** - A sustainable organic solution for bees decline (2016) - [http://cordis.europa.eu/project/rcn/200618\\_en.html](http://cordis.europa.eu/project/rcn/200618_en.html) - SC2/SME

**Thank you for your attention!**

