



HORIZON 2020

The EC perspective with regards to
vaccine research
From FP6 to Horizon 2020



Jean-Charles Cavitte

European Commission
DG Agriculture and Rural development
Unit H5 – Research & Innovation



- Structure for funding at the EC
- Overview of animal Health research in FP6 & FP7 with a focus on vaccinology
- Horizon 2020 and work programming
- Some key messages

THE EU FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

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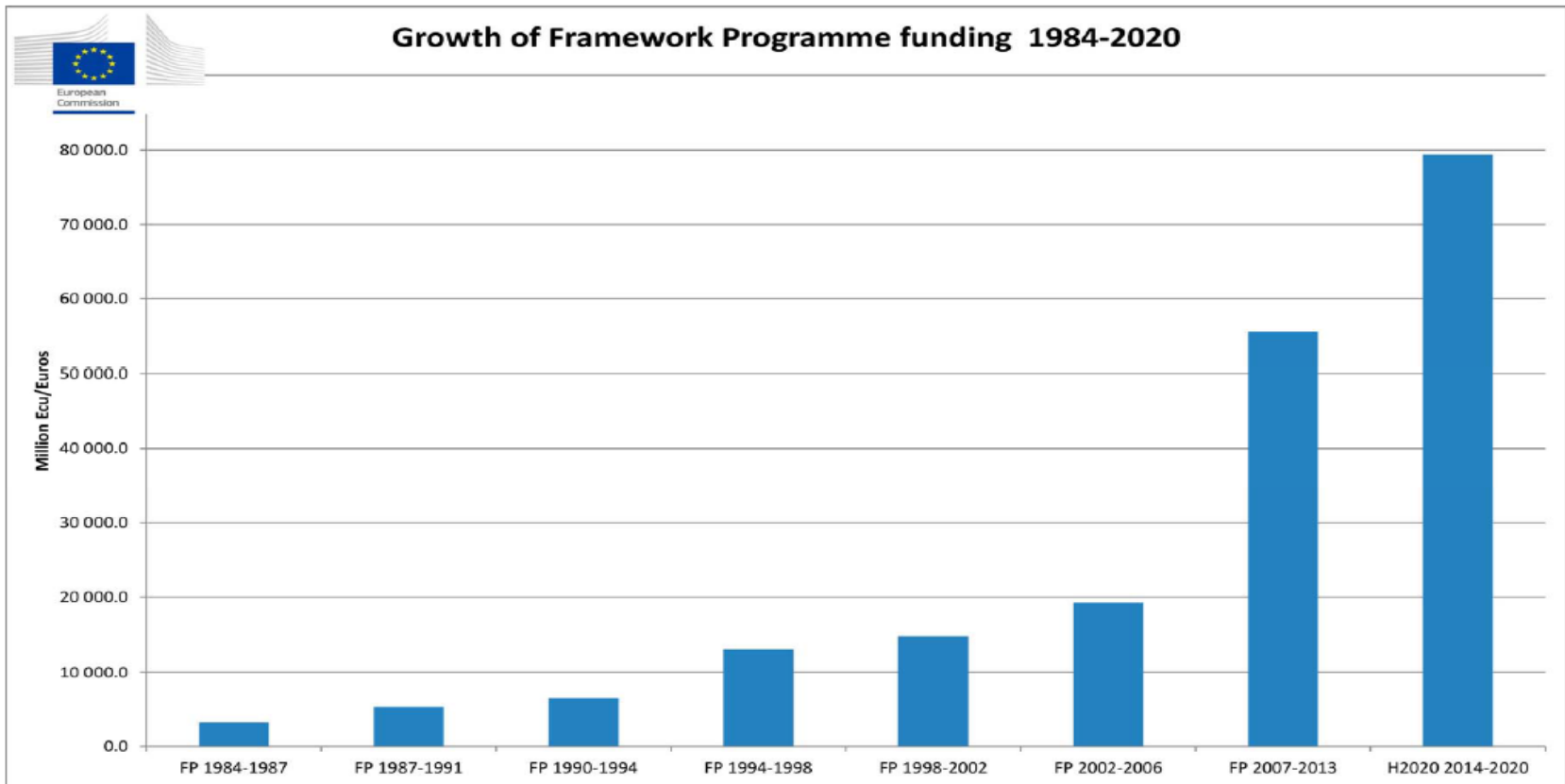


**Budget €79 000 million
(current prices)**

Duration 2014-2020

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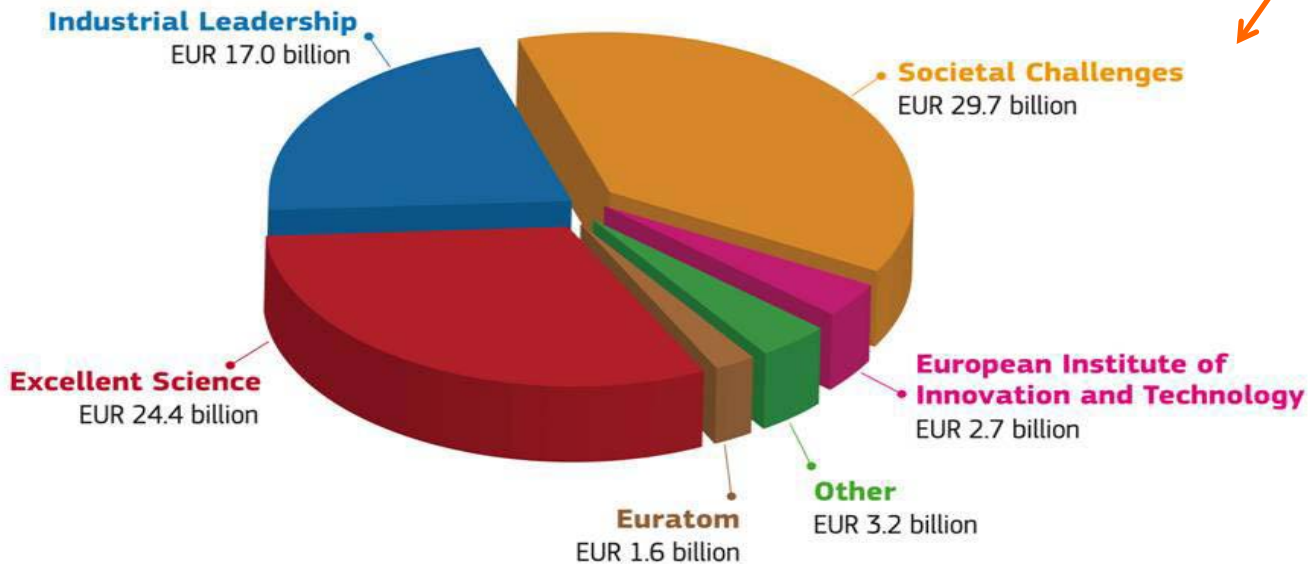
How has EU Research and Innovation funding evolved over recent years?



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Budget for SC2:
> €3,8 billion
around double of FP7 budget

HORIZON 2020 BUDGET (EUR 78.6 billion, current prices)



Biggest EU investment in Research and Innovation

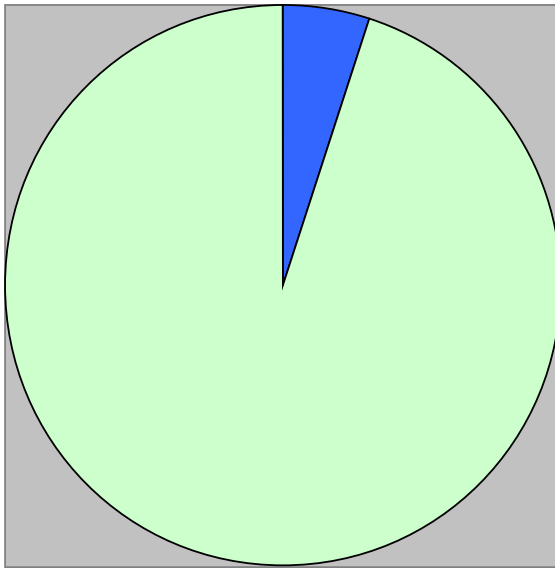


Societal challenges

Why:

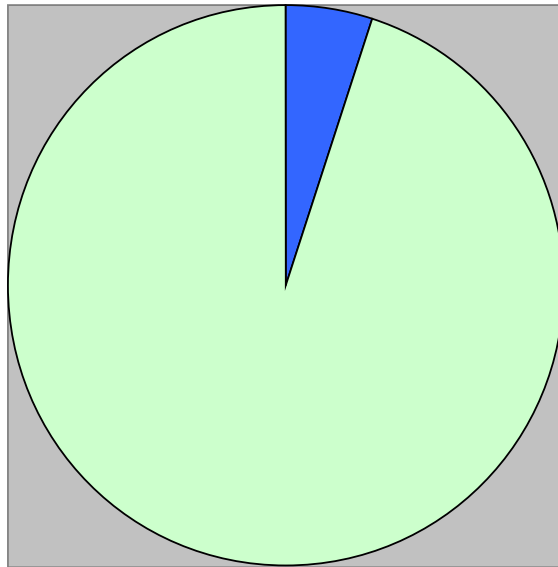
- Concerns of citizens and society/EU policy objectives (climate, environment, energy, transport, etc) cannot be achieved without innovation
- Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities
- Promising solutions need to be tested, demonstrated and scaled up

What is the EU Framework funding for research?

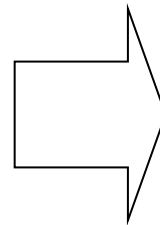


■ EU 27 ■ National (public + private)

What is the EU Framework funding for research?



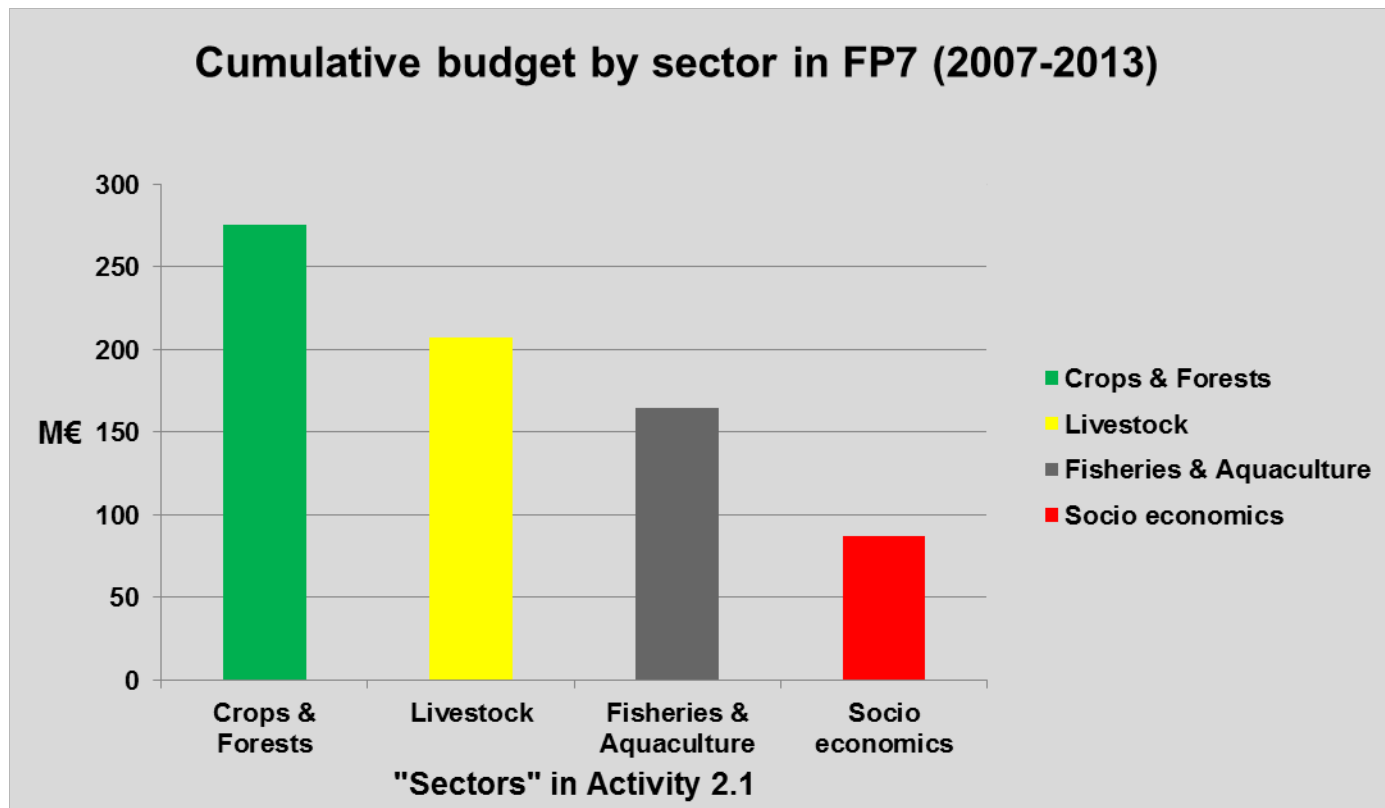
■ EU 27 ■ National (public + private)



EU research funding has been crucial for:

- Transnational scientific collaboration
- Integration, pooling of resources
- Transfer of know-how, mobility of researchers and training

Sectorial overview of EU funding in activity 2.1 during FP7



Around 60% of the funding of livestock related research went into animal health & animal welfare



FP6 & FP7 projects on epidemic diseases (under policies control)

*: includes vaccinology

Classical Swine Fever

CSF VACCINE & WILDBOAR**

CSF-GoDIVA**

Swine Influenza

ESNIP2

ESNIP3

FLUPIG*

African Swine Fever

ASFRISK

ASFORCE*

PRRSV

PoRRSCoN*

Avian Influenza

AIV VACCINE-DIAGNOSIS**

NOVADUCK**

FLUAID & HEALTHY POULTRY

FLUPATH & FLUTEST

NEW-FLUBIRD

FLURESIST & RIVERS

FLU-LAB-NET

FLUTRAIN & CONFLUTECH

Food and Mouth Disease

FMD-IMPROCON**

CA FMD/CSF

FMD-DISCONVAC**

Bluetongue, orbivirus, vector-borne

BTVAC**

MED-REO-NET

ORBIVAC**

Vmerge

FP6 & FP7 projects on endemic diseases

*: includes vaccinology

Mycobacterium

PARATB-TOOLS

VENOMYC*

TB-STEP*

WildTBVac**

Parasites

DELIVER*

PARASOL

PARAVAC**

GLOWORM

PIROVAC**

Porcine circovirus

PCVD*

NMCACC PCVD

Diagnosis tools

LAB-ON-SITE

RAPIDIAFIELD

Epidemiology (models)

INFTRANS

NEW CALL 2012

Genetic resistance

SABRE

3SR

QUANTOMICS

LOWINPUTBREED

SOLID

EADGENE-S

GplusE

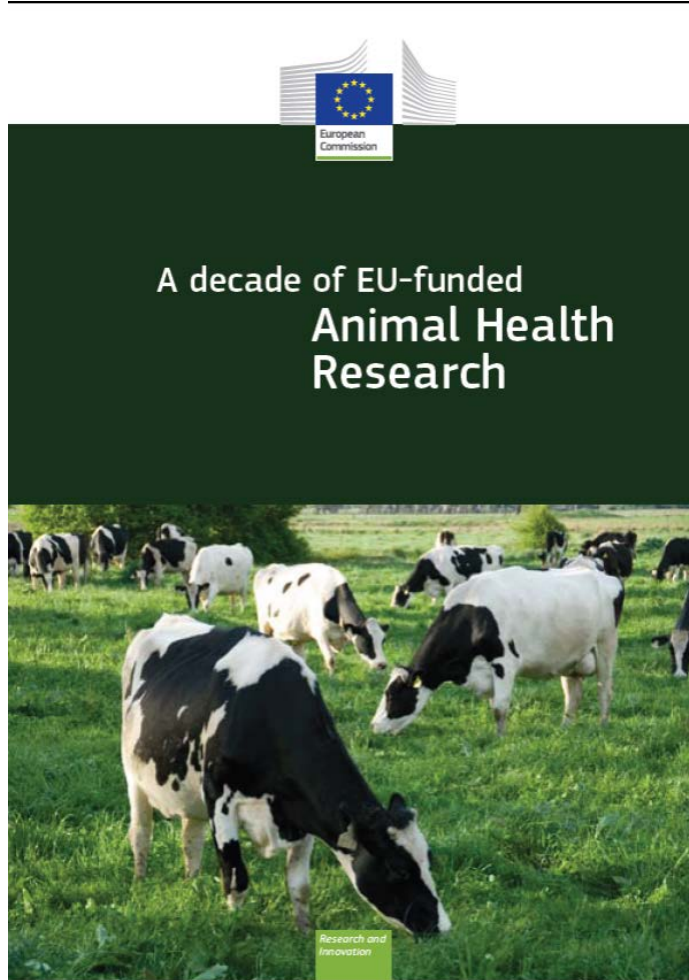
Production diseases

ProHealth (pigs, poultry)

IMPRO

Control, surveillance, prioritisation of diseases & zoonoses

- **DISCONTTOOLS***: Tools for prioritization of research in animal infectious diseases
- **EMIDA (ERA-NET)****: coordination of European research on infectious diseases of livestock followed by **ANIHWA (ERA-NET)***
- **STAR-IDAZ***: global level network ; **LinkTADS** EU-China coordination
- **EPIZONE***: Network of scientists to improve research on prevention, detection and control of epizootic diseases in Europe
- **ARBO-ZOONET***: Network for the control of viral vector borne zoonotic diseases (WNF, RVF, CCHF); **RISKSUR**: methodologies and tools for cost-effective risk-based animal health surveillance systems
- **WILDTECH**: Technologies for Surveillance of Emerging Infections of Wildlife
- **ICONZ***: Integrated control of neglected zoonoses; **OH-NEXTGEN**; **ADVANZ**
- **EFFORT**: AMR



Priority 3. Societal challenges



Tackling societal challenges for a better society



1. Health, demographic change and wellbeing

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

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

Objectives of Societal Challenge 2:

- Sufficient supplies of safe and high quality food and bio-based products,
- productive and resource-efficient primary production systems,
- competitive and low carbon supply chains.

**Making the best from our biological resources
accelerating the transition to a sustainable European bioeconomy**

EU Bioeconomy Strategy

Activities:

Co-management DG RTD - DG AGRI (mainly on 2.1; large budget)

Externalisation of management of most projects



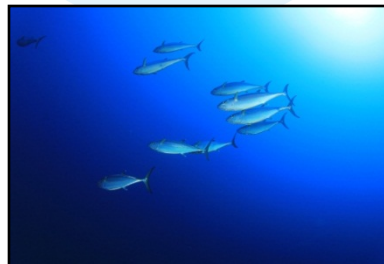
**2.1
Agriculture
and
forestry**

**2.2 Agri-
food sector
for a safe
and healthy
diet**

**2.3 Aquatic
living
resources**

**2.4 Bio-
based
industries
and
bioeconomy**

**2.5 Marine
and
maritime
research**



Activity 2.1. Sustainable Agriculture and Forestry

- 2.1.1. Increasing **production efficiency**, coping with climate change, while ensuring sustainability and resilience
- 2.1.2. Providing **ecosystem services** and public goods
- 2.1.3. Empowerment of **rural areas**, support to policies and rural innovation
- 2.1.4. Sustainable **Forestry**



Activity 2.1. Sustainable Agriculture and Forestry

Main challenges/ Orientations

more efficient production systems (crops, livestock, wood)

innovative technologies for more efficient use of inputs

improved plant and animal health

innovative plant & animal breeding

wiser use of natural resources (biodiversity, ecosystems)

climate change mitigation and adaptation practices (GHGs)

ecological intensification approaches (conventional & organic)

relation between urban and rural areas

support to EU policies (CAP; Environment; Food)

Three calls in WP2014-2015

Sustainable Food Security

- Sustainable food production systems
- *Safe food and healthy* diets and sustainable consumption
- Global drivers of food security

Blue Growth

- Sustainably exploiting the diversity of marine life
- New offshore challenges
- Ocean observation technologies/systems
- Socio-economic dimension - engagement with society

Innovative, Sustainable and Inclusive Bioeconomy

- Sustainable agriculture and forestry
- Sustainable and competitive bio-based industries
- Cross-cutting actions covering all the activities

SC2: Sustainable Food Security call

1. Sustainable food production systems

- SFS-1-2014/2015: Sustainable terrestrial livestock production
 - A. [2014] Genetics and nutrition and alternative feed sources for terrestrial livestock production
 - B. [2014] Tackling losses from terrestrial animal diseases^{**}: **2 large projects selected covering different species/diseases**
 - C. [2015] Assessing sustainability of terrestrial livestock production



Some key messages

- *Complex diseases, with many unknowns, evolving pathogens*
- *Vaccine development can be hampered by insufficient knowledge on HPI (e.g. for pathogenicity; immunology)*
- *Vaccine technology can still be improved (efficiency; convenience; safety/acceptability...); Exploit further omic's technologies*
- *Need to strengthen research efforts from basic to applied research*
- *Much more than biology/technology: policy, socio-eco etc*
- *Need for an integrated response with respect to:*
 - *disciplines (eg EPIZONE)*
 - *actors (public, private, stakeholders; e.g. European TP)*
- *Need to pursue efforts at national, EU and global levels*
- *Need to be prepared for emerging threats (West Nile, Rift Valley, African horse sickness, epizootic haemorrhagic disease etc etc ...)*
- *Need for close cooperation between human and animal research*



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**Thank you
for your attention!**

Useful links:

[Horizon 2020: www.ec.europa/research/horizon2020](http://www.ec.europa/research/horizon2020)