



Horizon 2020 and research and innovation funding for food security, agriculture and the bio-economy

Wolfgang Burtscher, DG Research and Innovation

XXVI EURAGRI Conference, Vienna, 1-2 October 2012

HORIZON 2020

The graphic features the word "HORIZON" in large, white, sans-serif capital letters. The letter "O" is replaced by a realistic, glowing globe of the Earth. The word "2020" follows in the same font. The background is a vibrant blue gradient with light rays emanating from behind the globe, creating a sense of depth and focus.

Research and
Innovation

The Multiannual Financial Framework (MFF) 2014-2020: Commission's proposals 29 June 2011

Key challenge: stabilise the financial and economic system while taking measures to create economic opportunities

1. Smart & inclusive growth (€491bn)



2. Sustainable growth, natural resources (€383bn)

3. Security and citizenship (€18.5bn)

4. Global Europe (€70bn)

5. Administration (€62.6bn)

**Total:
€ 1,025bn**

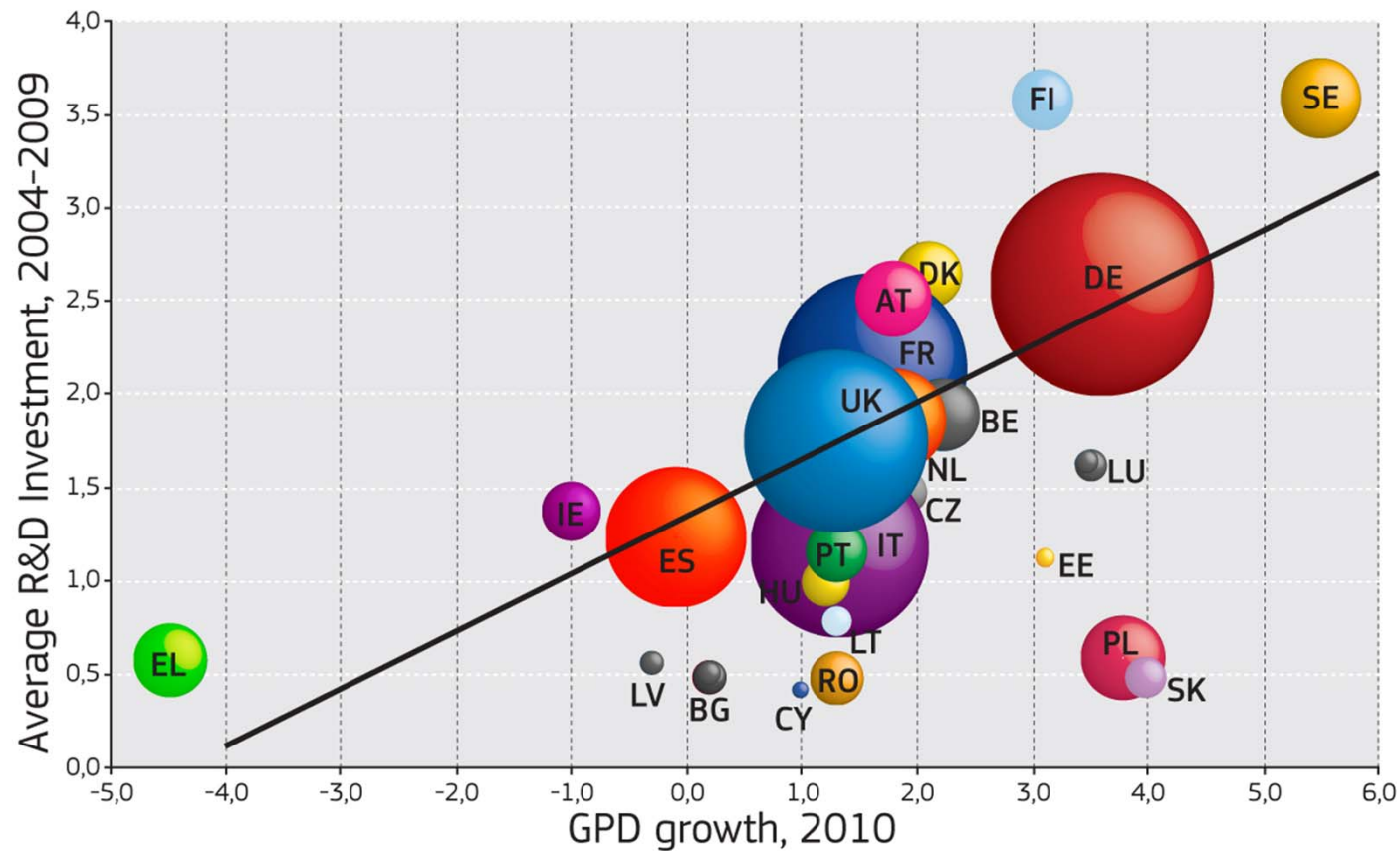


What is Horizon 2020

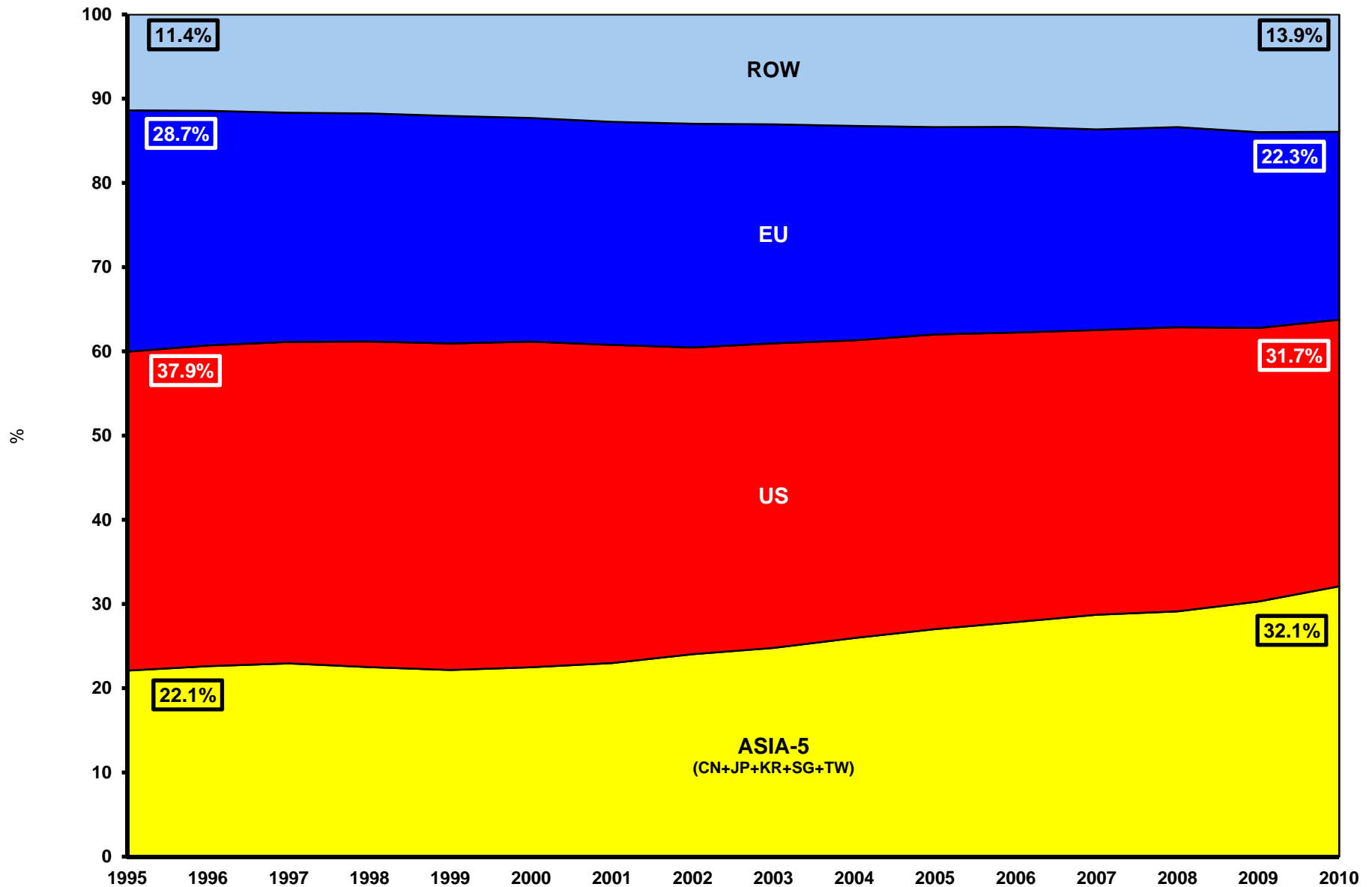
A core part of Europe 2020, Innovation Union & European Research Area:

- **Responding to the economic crisis** to invest in future jobs and growth
- **Addressing people's concerns** about their livelihoods, safety and environment
- **Strengthening the EU's global position** in research, innovation and technology

Investment in R&D is part of the solution to exit from the economic crises



Worldwide R&D expenditure 1995-2010 in %





What's new

- Commission proposal for a 80 billion euro research and innovation funding programme (2014-2020) provides for **a substantial increase**
- **A single programme** bringing together three separate programmes/initiatives*
- **Coupling research to innovation** – from research to retail, all forms of innovation
- **Focus on excellence, industrial leadership and societal challenges** facing EU society, e.g. health, clean energy and transport
- **Simplified access**, for all companies, universities, institutes in all EU countries and beyond.

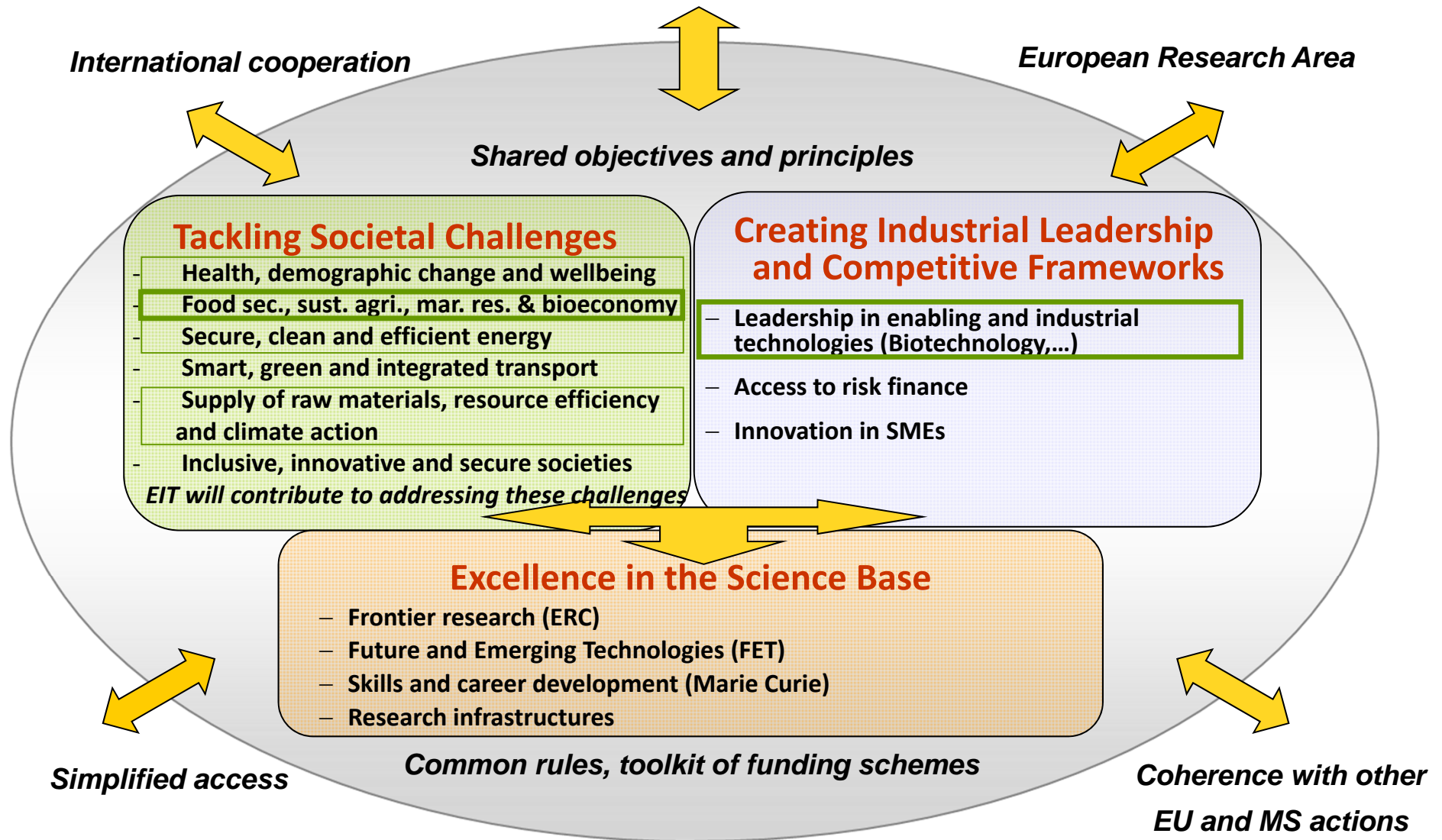
*The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)

Horizon 2020: Framework Programme for Research and



European
Commission

Europe 2020 Priorities





Horizon 2020

Priority 1: Excellent science

Why:

- *World class science is the foundation of tomorrow's technologies, jobs and wellbeing*
- *Europe needs to develop, attract and retain research talent*
- *Researchers need access to the best infrastructures*

<i>European Research Council</i> Frontier research by the best individual teams	<i>13 268 M€</i>
<i>Future and Emerging Technologies</i> Collaborative research to open new fields of innovation	<i>3 100 M€</i>
<i>Marie Curie actions</i> Opportunities for training and career development	<i>5 752 M€</i>
<i>Research infrastructures (including e-infrastructure)</i> Ensuring access to world-class facilities	<i>2 478 M€</i>



Horizon 2020

Priority 2: Industrial Leadership

Why:

- *Europe needs more innovative SMEs to create growth and jobs*
- *Strategic investments in key technologies (e.g. advanced manufacturing, micro-electronics) underpin innovation across existing and emerging sectors*
- *Europe needs to attract more private investment in research and innovation*

<i>Leadership in enabling and industrial technologies</i> (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)	<i>13 781 M€</i>
<i>Access to risk finance</i> Leveraging private finance and venture capital for research and innovation	<i>3 538 M€</i>
<i>Innovation in SMEs</i> Fostering all forms of innovation in all types of SMEs	<i>619 M€ complemented by 6829 M€ (expected 15% of societal challenges + LEIT)</i>

Societal challenges



Population
+50% by 2050

Food

+70% by 2050



Energy
+100% by 2050

Climate
+2° by 2050



Horizon 2020

Priority 3: Societal challenges

Why:

- *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*

<i>Health, demographic change and wellbeing</i>	8 033 M€
<i>Food security, sustainable agriculture, marine and maritime resources & the bioeconomy</i>	4 152 M€
<i>Secure, clean and efficient energy</i>	5 782 M€
<i>Smart, green and integrated transport</i>	6 802 M€
<i>Climate action, resource efficiency and raw materials</i>	3 160 M€
<i>Inclusive, innovative and secure societies</i>	3 819 M€



Horizon 2020

Food security, sustainable agriculture, marine and maritime resources & the bioeconomy

The specific objective is to secure sufficient supplies of safe and high quality food and other bio-based products, by developing productive and resource efficient primary production systems, fostering related ecosystem services, along side competitive and low carbon supply chains.

This will accelerate the transition to a sustainable European bio-economy

Broad lines of activities:

- **Sustainable agriculture and forestry**
- Sustainable and competitive agri-food sector for a safe and healthy diet
- Unlocking the potential of aquatic living resources
- Sustainable and competitive bio-based industries



Sustainable agriculture and forestry

- *Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience*
Adaptive capacity of production systems to changing environment and scarce natural resources; low energy/carbon/waste economy; food security; biomass and by-products for non-food applications...multidisciplinary approaches; efficient resource use; ecological integrity; integrated and diverse production systems; conventional and modern breeding approaches; on-farm soil management; animal and plant health; zoonoses/AMR; animal welfare...
- *Providing ecosystem services and public goods*
Wider societal public goods and important ecological services (biodiversity, pollination, water regulation, landscape, GHG mitigation)...management solutions; decision-support tools...
- *Empowerment of rural areas, support to policies and rural innovation*
Socio-economic research along with development of new concepts and institutional innovations; social and economic cohesion; diversification of economic activities; relation urban/rural areas; regional/local/inter-regional/European; tools/indicators/models/forward looking activities; support to policy making (monitoring/assessment of strategies, policies, legislation)...



Sustainable and competitive biobased industries



Fostering the bio-economy for bio-based industries

Develop integrated biorefineries

Supporting market development for bio-based products and processes



European Strategy and Action Plan Innovating for Sustainable Growth: A Bioeconomy for Europe

Challenges identified

- Ensuring food security
- Managing natural resources sustainably
- Reducing dependency on non-renewable resources
- Mitigating and adapting to climate change
- Creating jobs and maintaining European competitiveness

Objectives

- Pave the way to a more innovative, resource efficient and competitive society that reconciles food security with the sustainable use of renewable resources, while ensuring environmental protection.
- Contribute to a more coherent policy environment and better interrelations between national, EU and global bioeconomy policies
- Seek synergies and respect complementarities with other policy areas, instruments and funding sources



Governance issues regarding Horizon 2020

- **DG Agri becomes part of the Research and Innovation DGs**
- **Strategic programming of funding activities**
- **Continued involvement of Member States and stakeholders in research agenda setting (e.g. Standing Committee on Agricultural Research)**
- **Increased externalisation of implementation of research funding**
- **Use of Joint Programming, Joint Undertakings, Innovation Partnerships, ERA net;**

Funds projects in three activities:



FAFB - Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments



FAFB - Activity 2.2

“Fork to farm”: Food (including sea-food), health and well being



FAFB - Activity 2.3

Life sciences, biotechnology and biochemistry for sustainable non-food products and processes



Bridging with Horizon 2020, supporting innovation

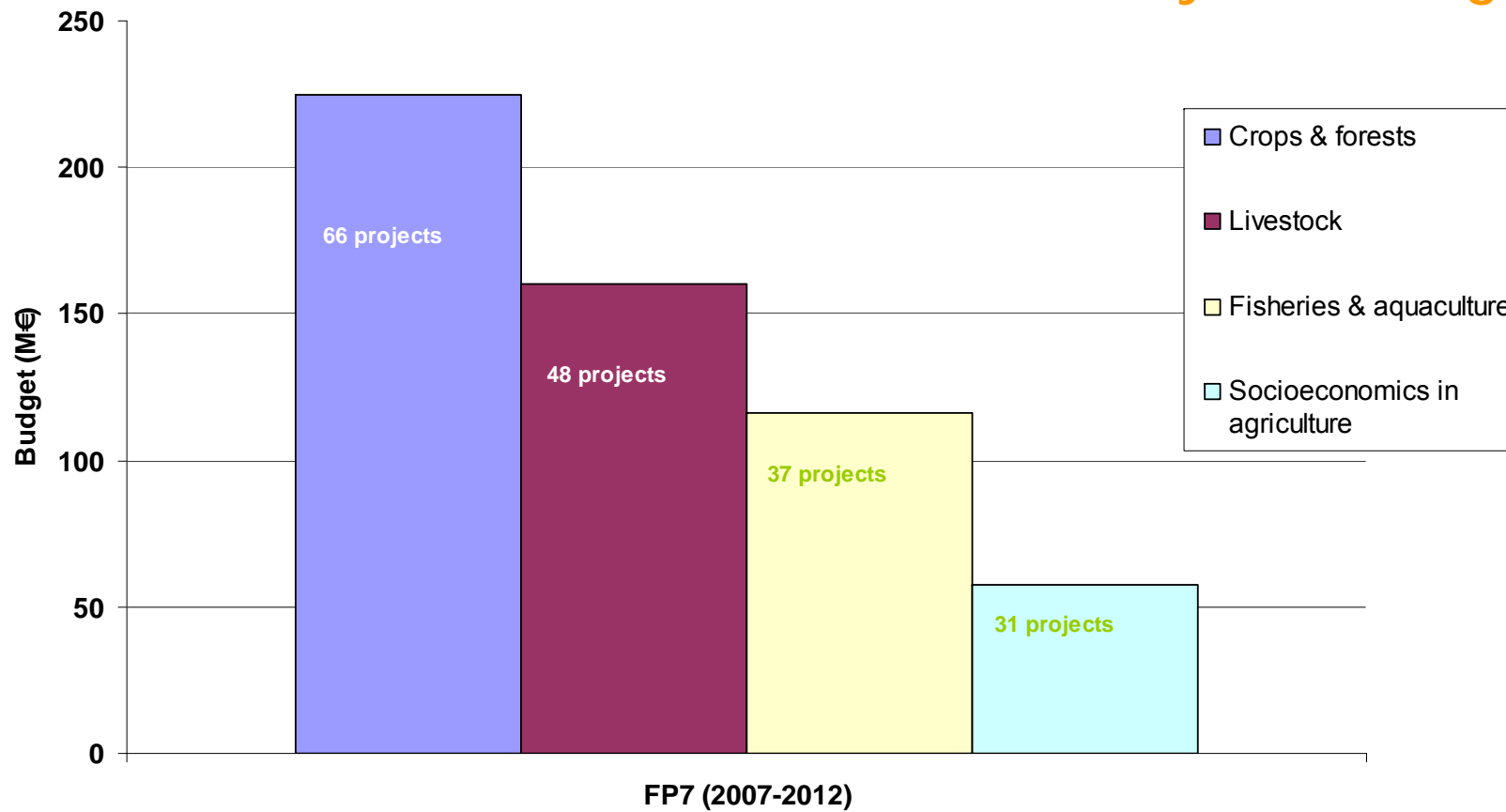
- 2013 FAFB with emphasis on “from discovery to demonstration”. Several topics require or encourage:
 - ▶ Proof-of-concept and demonstration activities (16 topics)
 - e.g. demonstrating the potential of biotechnological applications*
 - ▶ Knowledge transfer and dissemination actions (23 topics)
 - e.g. network for transfer of knowledge on traditional food to SMEs*
 - ▶ Demand-side measures, such as pre-commercial procurement or standardisation activities (4 topics)
 - e.g. standardisation, labelling and procurement for bio-based products*
- Bottom-up approaches with cross-cutting and cross-thematic topics, allowing for participants to freely develop their solutions to achieve the expected impact (6 topics)



Bridging with Horizon 2020, strengthening SME participation

- In FP7 FAFB until now: SMEs = 12% of budget
16% of participants
- In 2013, continued focus on strengthening industrial and SME participation:
 - ▶ SMEs as key players to foster innovation
 - ▶ Almost 20% of budget earmarked for SME participants
 - ▶ A majority of topics have ring-fenced budget for SMEs
EU contribution for SMEs varies from 10% up to 75 %
of topics' budget (27 topics)

Cumulative sectorial overview and trends in activity 2.1 during FP7



More information:
<http://ec.europa.eu/research/bioeconomy>



- Up-to-date news and events, press material, videos, success stories
- An "innovation" section with a SMEs corner
- A unique e-Library compiling publications related to the Bioeconomy

EU next Funding Programme for R&I: HORIZON 2020

http://ec.europa.eu/research/horizon2020/index_en.cfm
<https://ec.europa.eu/research/participants/portal/page/home>