



HORIZON 2020

**The New EU
Framework Programme for
Research and Innovation**

2014-2020



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International Cooperation
DG Research and Innovation
European Commission

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What's new?

- **A single programme** bringing together three separate programmes/initiatives*
- **Coupling research to innovation** – from research to retail, all forms of innovation
- **Focus on 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

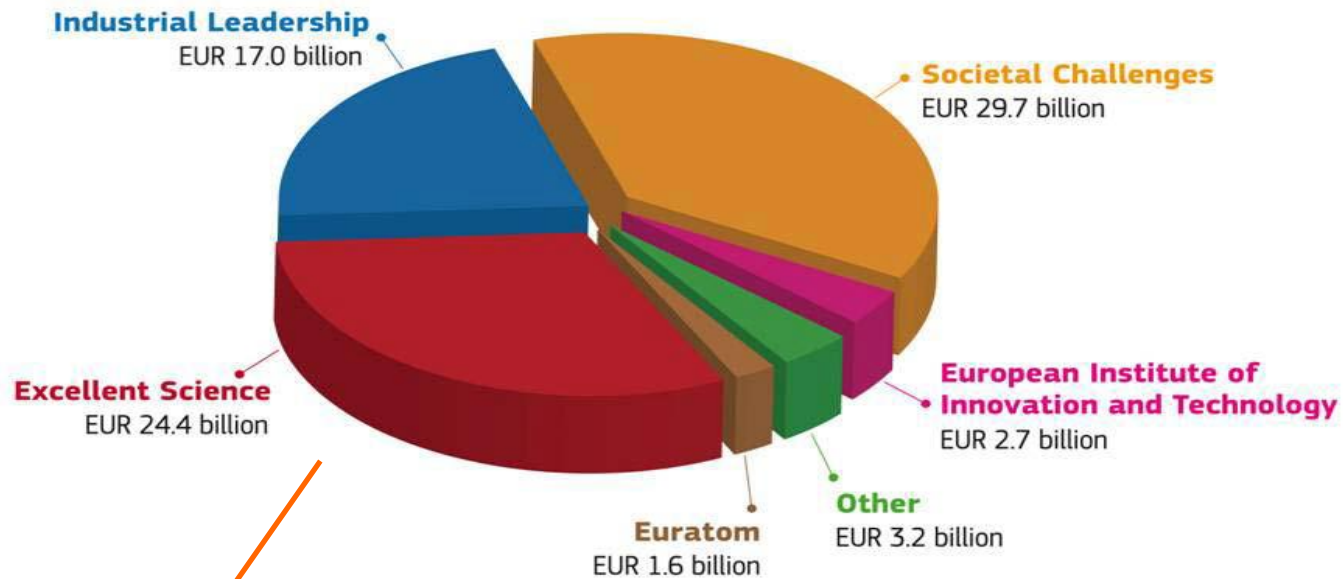
* The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)

Three priorities



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HORIZON 2020 BUDGET (EUR 78.6 billion, current prices)



Biggest EU investment in Research and Innovation

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

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

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**



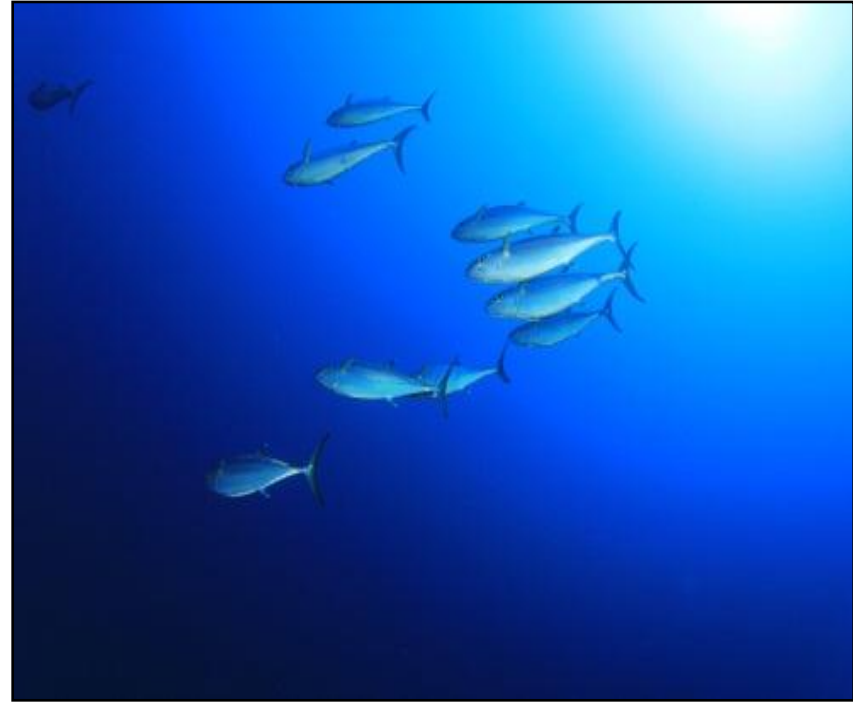
Activity 2.2 Sustainable and competitive agri-food sector for a safe and healthy diet

- 2.2.1. Informed **consumer choices**
- 2.2.2. **Healthy and safe foods** and diets for all
- 2.2.3. A sustainable and competitive **agri-food industry**



Activity 2.3. Unlocking the potential of aquatic living resources

- 2.3.1. Developing sustainable and environmentally-friendly **fisheries**
- 2.3.2. Developing competitive and environmentally-friendly **European aquaculture**
- 2.3.3. Boosting **marine and maritime innovation** through biotechnology



Activity 2.4. Sustainable and competitive bio-based industries and bioeconomy

Full title: Activity 2.4. Sustainable and competitive bio-based industries and supporting the development of a European bioeconomy

2.4.1. Fostering the **bioeconomy** for **bio-based industries**

2.4.2. Developing integrated **biorefineries**

2.4.3. Supporting **market development** for bio-based products and processes

**Most activities related to sustainable and competitive bio-based industries as defined in the Horizon 2020 Specific Programme will be implemented through the Joint Technology Initiative (JTI) on Bio-based Industries.*



Activity 2.5. Cross-cutting marine and maritime research

2.5.1. **Climate change impact** on marine ecosystems and maritime economy

2.5.2. Developing the potential of **marine resources** through an integrated approach

2.5.3. Cross-cutting concepts and technologies **enabling maritime growth**

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Three calls

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: WP 2014-2015

Types of actions:

- 29 Research and Innovation Actions
 - 2 Innovation actions
 - 13 Coordination and Support actions
 - 1 ERANET Co-fund (*but 6 possible ERANETS*)
 - 2 SME instrument → *multiple deadlines*
- } → *Two-stage*
- } → *Single-stage*

Budget

CALLS	2014	2015
Sustainable Food Security	138 M€	110,5 M€
Blue Growth	100 M€	45 M€
Innovative, Sustainable and Inclusive Bioeconomy	44,5 M€	42 M€

Horizon 2020 SC2 : Calendar

Publication of first calls: 11 December 2013

Calendar of Deadlines in 2014 and 2015:

■ **Single-stage** (CSAs, ERANETs):

2014: 26/06/2014

2015: 11/06/2015

■ **Two-stage** (RIA, IA):

2014: 12/03/2014 **and** **26/06/2014**

2015: 24/02/2015 **and** **11/06/2015**

Info Day: Brussels 17 January 2014

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



Bio-based Industries Joint Technology Initiative

General principles for a JTI under Horizon 2020

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- **Clear and ambitious objectives**, contributing directly to competitiveness and EU policy goals;
- Governance to ensure **openness** to new participants, the allocation of funding on the basis of **excellence**, and efficient links with national activities;
- **Simple implementation** structures and rules for participants;
- **Strong commitments from industry**, including substantial financial commitments.

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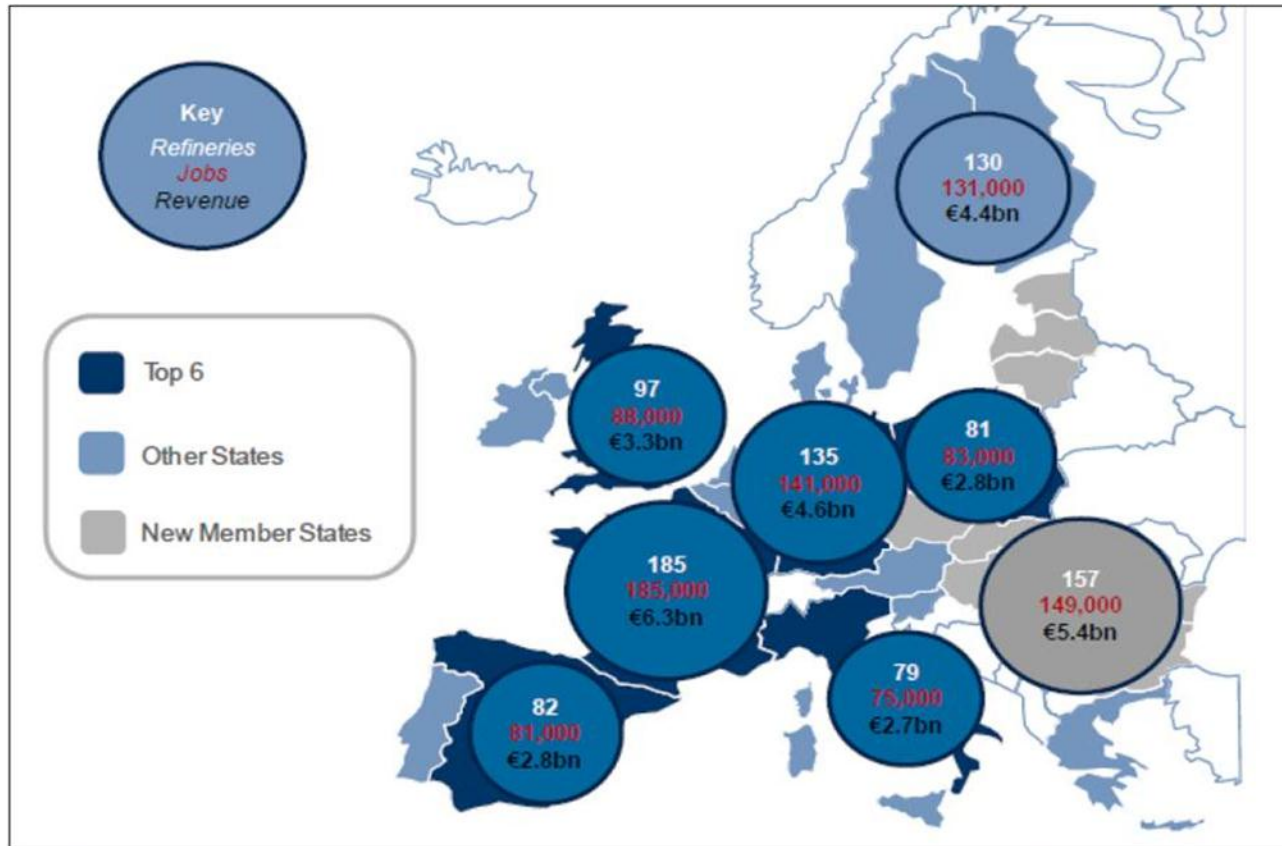
A Bio-Based Industries JTI is needed as a catalyzer for the creation of new value chains

- Cross-sectorial collaboration along value chains of previously unrelated sectors and industries
 - ✓ Pooling of resources
 - ✓ De-risking investments at higher TRL levels
- Develops the necessary range of conversion processes for integrated biorefineries
- Demonstrates and deploys advanced large-scale biorefineries
- Facilitates and promotes the uptake of bio-based products

The regional potential of bio-based industries



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- Building a strong biobased economy in Europe will create both revenues and jobs directly and indirectly
- Next to direct jobs, a biobased economy will also increase farmer income and improve economic activity in developing rural regions

Note: The numbers of biorefineries are determined by the ability of each region or member state within the EU27 to supply bioproducts. Jobs in the chart represent the total man-years of employment between 2010 and 2020, not the number of jobs in 2020 alone. Included jobs are in management, operation and construction of the biorefineries. Revenues are per year
Source: Bloomberg

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The presentation shall neither be binding nor construed as constituting commitment by the European Commission



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Overall budget: € 3 800 million

EU contribution



Industry contribution



Leverage

2,8 € private investment for every 1 € public investment



Lignocellulose based

Biomass supply: ence, GFP, IAR, UPM, SCA, sippi, mond

Primary conversion: Borregaard, CLIB, UPM, ence, IAR, SCA, mond, sippi

Secondary conversion: ABENGOA BIOENERGIA, bionet, BIOBASED INNOVATIONS, CLARIANT, novozymes, DSM, kemira, Novamont, SOLVAY

Products and Markets: ABENGOA BIOENERGIA, DONG energy, CLARIANT, SOLVAY, BIOBASED INNOVATIONS, REPSOL, Novamont, DSM, KLM

Forest based

Biomass supply: the dutch biorefinery cluster, BILLERUDKORSNÄS, FIBIC, HOLMEN, ence, mond, Norske Skog, sippi, Metsä, SÖDRA

Primary conversion: Borregaard, CLIB, FIBIC, SÖDRA, ence, HOLMEN, Metsä, sippi, Norske Skog, Senurfi Kappa Group

Secondary conversion: Bio Base Europe Pilot Plant, BPF, CLIB, Borregaard, HOLMEN, Novamont, SOLVAY

Products and Markets: BILLERUDKORSNÄS, SOLVAY, Novamont

Agro based

Biomass supply: the dutch biorefinery cluster, Fertiberia, Cargill, IAR, Nordzucker, ROQUETTE, sippi, mond

Primary conversion: IAR, Cargill, ard, SICLAE, CESPRI, mond, Nordzucker, ROQUETTE

Secondary conversion: ABENGOA BIOENERGIA, CLARIANT, BIOBASED INNOVATIONS, BPF, REPSOL, DSM, Novamont, SOLVAY

Products and Markets: ABENGOA BIOENERGIA, CLARIANT, BIOBASED INNOVATIONS, Novamont, DSM, KLM, REPSOL, SOLVAY

Waste based

Biomass supply: Fertiberia, UPM, the dutch biorefinery cluster

Primary conversion: Bio Base Europe Pilot Plant, BPF, UPM, the dutch biorefinery cluster

Secondary conversion: ABENGOA BIOENERGIA, SOLVAY, Bio Base Europe Pilot Plant, BPF, DSM, BIOBASED PULP FACILITY, DONG energy, InKemia, kemira, novozymes, Novamont

Products and Markets: ABENGOA BIOENERGIA, SOLVAY, DONG energy, DSM, Novamont

Bioenergy based

Biomass supply: ence, FIBIC, Metsä, mond, sippi

Primary conversion: Bio Base Europe Pilot Plant, BPF, CLIB, Metsä, ence, FIBIC, sippi, mond

Secondary conversion: Bio Base Europe Pilot Plant, BPF, InKemia, CLIB

- Decision making process in Council (and European Parliament)
- Adoption Council regulation on JTI on Bio-based Industries
- First call launched by COM mid 2014

International cooperation

- **International cooperation** = key cross-cutting priority of Horizon 2020, in particular to:
 - ✓ Strengthen the Union's excellence, as well as its economic competitiveness
 - ✓ Tackle global societal challenges
 - ✓ Support the Union's external policies
- **Basic approach provided by** Horizon 2020 Regulation and Rules for Participation
- **Strategy** for international cooperation (COM(2012) 497): enhancing and focusing international cooperation activities (in terms of areas and partners)

International cooperation in Horizon 2020

Key message:

Horizon 2020 is open to participation from across the world!

Clear ambition to substantially increase participation of international partners!

How?

- **General opening**
- **Targeted international cooperation actions** across Horizon 2020
- Supported by **horizontal international cooperation activities** (in Horizon 2020 Challenge 6: follow-up to Capacities INCO programme)

General opening

- Horizon 2020 is **open to participation** from across the world
- **Automatic funding:**
 - ✓ Member States (including overseas departments and overseas territories)
 - ✓ Associated Countries
 - ✓ exhaustive list of countries in annex to work programme (but: no longer BRIC + Mexico in this list!)
- For other countries, funding only in **exceptional cases:**
 - ✓ when provision is made in the call text
 - ✓ bilateral agreement (e.g. Health challenge – NIH)
 - ✓ when the Commission deems it essential (case by case assessment)

Targeted actions

- Targeted international cooperation activities across Horizon 2020: **area for cooperation** and **partner** specified upfront
- Areas identified based on analysis of a set of criteria to ensure **common interest** and **mutual benefit**:
 - ✓ Research and innovation excellence
 - ✓ Framework conditions/access to markets
 - ✓ Contribution to international commitments
 - ✓ Frameworks to engage in cooperation and lessons learned
- **Differentiation by countries/regions**: enlargement/neighbourhood/EFTA, industrialised and emerging countries, developing countries
- International cooperation as part of **strategic planning** for each part of Horizon 2020
- Result: **roadmaps** for international cooperation with international partners (to be published early 2014)

Implementation in WP2014-15

- All research calls are open for Indian project partners.
- Horizon 2020 first calls will be published on 11 December 2013.
- Please read the work programmes of the calls.
- Please apply as project participant in a research consortium
 - or for a mobility grant to the Marie Skłodowska-Curie programme
 - or a grant from the European Research Council
- Please register also in our expert database to help with proposal evaluations.



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Find out more:
www.ec.europa/research/horizon2020