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FP7 THEME 2

Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

WORK PROGRAMME 2010

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Directorate-General for Research
European Commission

Food,
Agriculture and Fisheries,
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

FP7 – Brokerage Event 2010 – 20 October 2009, Lisbon





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Define global research needs along the food chain

KBBE Rationale

/ the European Commission



Food,
Agriculture and Fisheries
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

- **Build an European Knowledge-Based Bio-Economy (KBBE)**
- **Respond to social and economic challenges:**
 - **Product markets- Productivity gains (Agriculture)**
 - **Enhancement effects (Nutrition & Health)**
 - **Eco-efficient and sustainable use of natural resources Substitution- (Biotechnologies)**
 - **Support Lisbon Strategy – Growth and Employment**
- **Provide goods and services to a growing population**

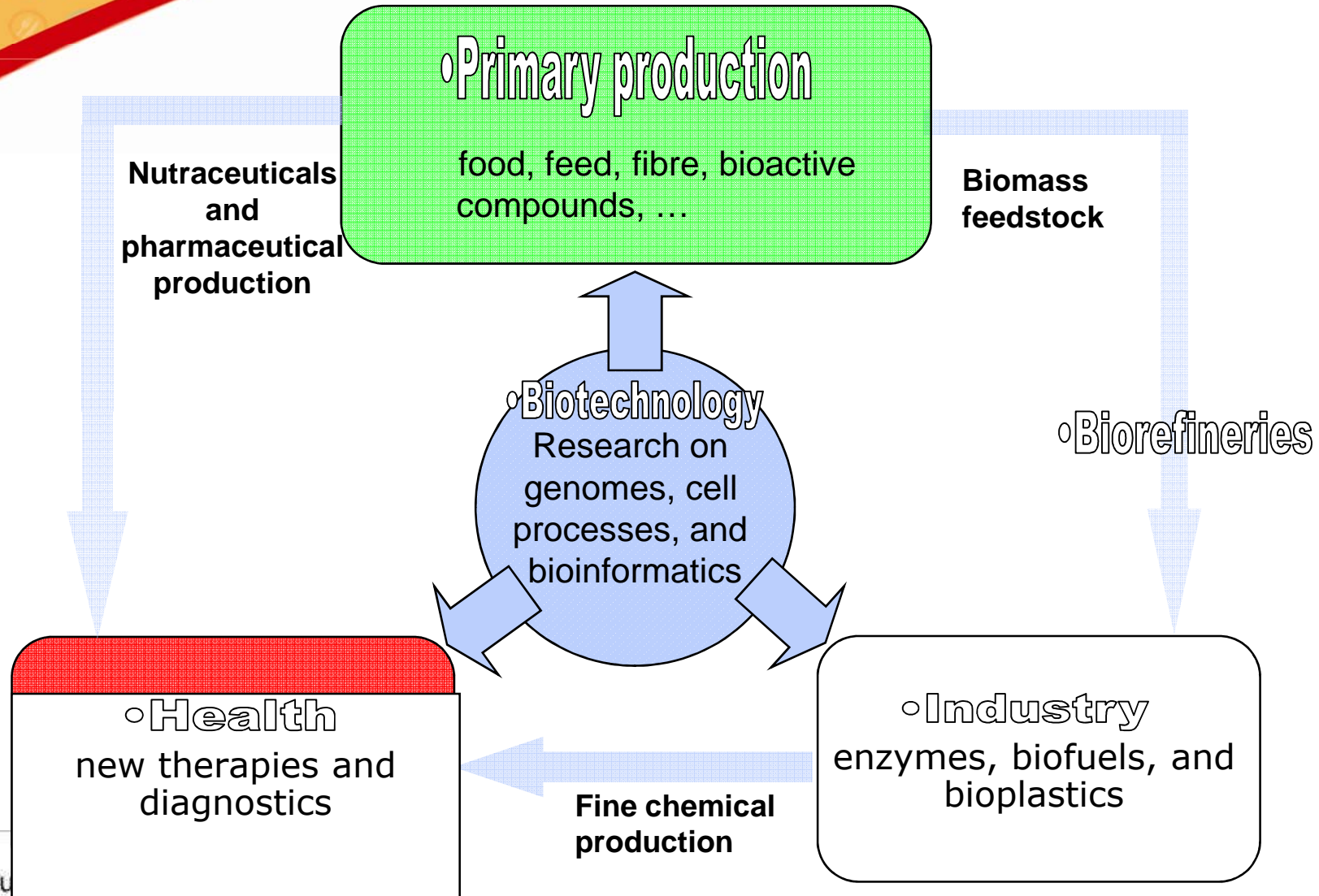
SEVENTH FRAMEWORK
PROGRAMME



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Bioeconomy



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WORK PROGRAMME 2010 Challenges

the European Commission

- **Climate change**
- **Competition for land use**
- **Increasing environmental considerations**
- **Feeding the increasing world population**
- **Safer, healthier, higher-quality food**
- **Sustainable use and production of renewable bio-resources**
- **European biobased industries competitiveness**

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and **B**iotechnology
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WORK PROGRAMME 2010 European Added Value

the European Commission

“the value resulting from EU support for RTD activities which is additional to the value that would have resulted from RTD funded at regional and national levels by both public authorities and the private sector”

Attainment of EAV enshrined in EU legislation as one of the prime justifications for EU RTD actions. Need to evaluate EAV embedded in the EC Treaty. EAV considered a selection criteria.

Expected Impact

Potential impact through the development, dissemination and use of project results will be considered by the evaluators

- Check for each topic detailed expected impacts



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WORK PROGRAMME 2010 Novelties

- **More broader topics (mainly for CP-FPs)**
- **More than one project financed per topic – Activity 2.3**
- **Funding limits range wider, specified in the topics, up to EUR 9 million**
- **Cross-thematic aspects:**
 - **Marine joint call (Dir E, H, I, K, L)**
 - **Specific call on Africa targeting water and food security (Dir. E, I, D, ...)**



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WORK PROGRAMME 2010 Instruments

48 topics

Funding scheme	Number of topics	EC contribution
Collaborative Projects - large scale integrating projects (CP-IP)	14	EUR 4.500.000 to 9.000.000 As stated in the topic
Collaborative Projects - small or medium- scale focused research project (CP- FP)	20	EUR 1.000.000 to 3.000.000 As stated in the topic
Coordination & Support Actions (CSA)	14 (including 3 ERA-nets)	EUR 500.000 to 1.000.000 As stated in the topic

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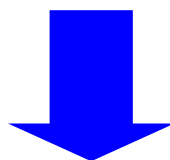


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WORK PROGRAMME 2010 New Features

Topics targeting SMEs



**encourage SMEs and industry in
research & innovation**

- **1 topic** – research for SMEs (Activity 2.2)
- **16 topics** - SMEs participation encouraged:
 - **3 topics** in Act. 2.1
 - **6 topics** in Act. 2.2
 - **7 topics** in Act. 2.3

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➔ <http://ec.europa.eu/research/sme-techweb>





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The 7th EU Framework Programme for Research and Development

2007-2013

total funding 53 billion €



• Specific Programmes

Cooperation – Collaborative Research	€ 32.365 m
Ideas – Frontier Research	€ 7.460 m
People – Human Potential	€ 4.728 m
Capacities – Research Capacity	€ 4.217 m
JRC, non nuclear	€ 1.751 b
JCR, nuclear	€ 0.517 b
EURATOM	€ 2.234 b

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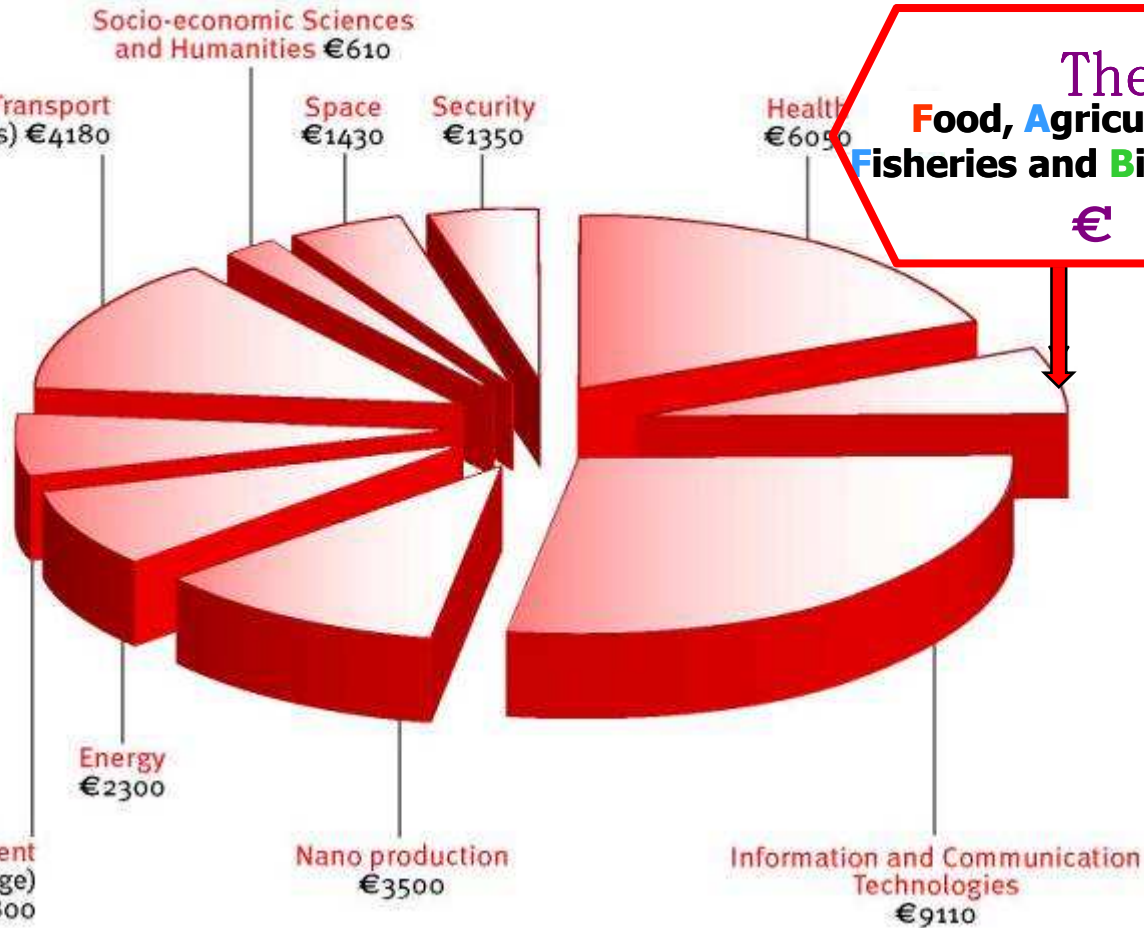


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Cooperation programme - 10 thematic areas

European Commission



Theme 2
Food, Agriculture and Fisheries and Biotechnology
€ 1935

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Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Theme 2: 3 Activities



KBBE – Activity 2.1
Sustainable production and
management of biological
resources from land, forest
and aquatic environments



KBBE – Activity 2.2
“Fork to farm”: Food
(including sea-food),
health and well being



KBBE – Activity 2.3
Life sciences, biotechnology
and biochemistry for
sustainable non-food
products and processes

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FP7 KBBE - Activity 2.1

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



Food, Agriculture and Fisheries, and Biotechnology

EU agriculture, forestry and fishery facts and figures:

- 17 million farmers
- 42% of total land area used for agriculture
- 13% of world cereal production
- Food sector activities for 8% of EU population and provide 1.4 million jobs
- 8% of GDP derived from aquatic products



- Enabling research ('omics' converging technologies, bio-informatics, biodiversity) for micro-organism, plants and animals
- Increasing sustainability of production systems; plant health and crop protection
- Optimising animal health production and welfare; animal diseases
- Supporting policies and socio-economic research
- Integrating marine and maritime research; joint call "The ocean of tomorrow"

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EU-AgriNet www.ec.europa.eu/research/agriculture/index_en.html





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FP7 KBBE - Activity 2.2

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



Food, Agriculture and Fisheries, and Biotechnology

EU food facts and figures:

- Leading manufacturing sector
- Employs 4.1 million
- EUR 800 billion annual turnover
- 283 000 food companies (99% SMEs)

The food and drink industry is one of Europe's most important and dynamic economic sectors. The European Commission aims to maintain its competitiveness while taking account of the requirements of the Community's policies and the European Union's international obligations.



- Consumer, societal, industrial and health aspects of food and feed
- Nutrition, diet related diseases and disorders
- Innovative food and feed Processing
- Improved Quality and Safety of food, beverage and feed
- Total Food Chain concept

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Activity 2.3 - Biotechnologies



2.3.1. Novel sources of biomass and bioproducts



2.3.2. Marine and fresh-water biotechnology



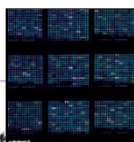
2.3.3. Industrial biotechnology



2.3.4. Biorefinery



2.3.5. Environmental biotechnology



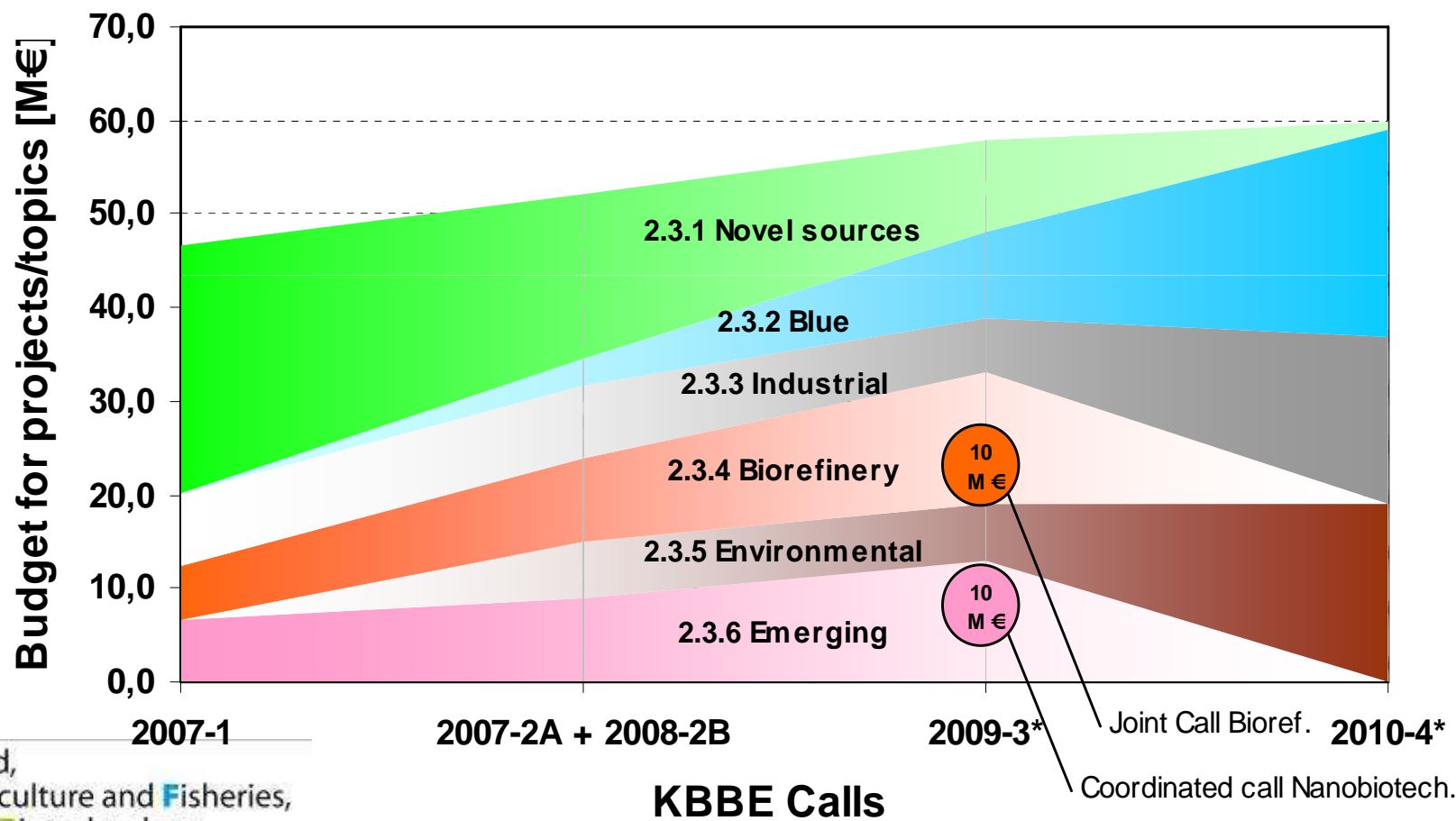
2.3.6. Emerging trends in biotechnology



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Activity 2.3 - Biotechnologies Financial weight/area/call



Food, Agriculture and Fisheries, and Biotechnology

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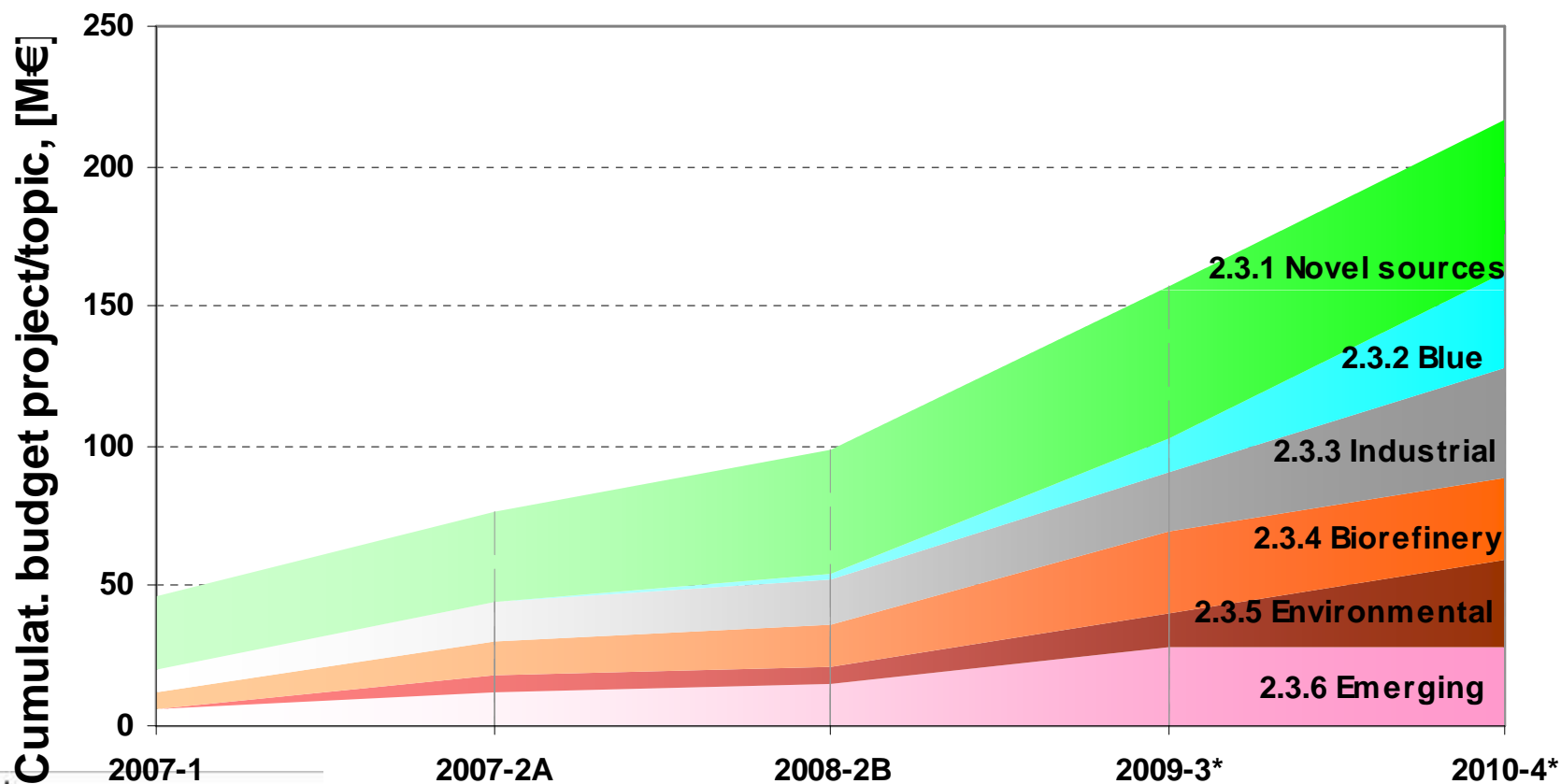




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Activity 2.3 - Biotechnologies Cumulative financial weight/area



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KBBE Calls





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Activity 2.3 - Biotechnologies



2.3.1. Novel sources of biomass and bioproducts

- ✓ **Objective:** *Optimisation of terrestrial biomasses for industrial purposes. Novelty relies on screening of terrestrial biodiversity and discovery of new organisms and biochemical pathways.*
- ✓ **What has been done? 53 M€**
 - **Energy crops:** Sweet sorghum, Jatropha, Poplar
 - **Industrial products:** Value added oils, rubber and latex crops
 - **Pharmaceuticals:** Vaccines, plant terpenoids
- ✓ **WP2010 opened call**

<i>Global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants – Mandatory ICPC (Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean Partner Countries)</i>	CSA-CA
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Activity 2.3 - Biotechnologies



2.3.2. Marine and fresh-water biotechnology

- ✓ **Objective:** *Harnessing the economic and scientific potential of aquatic environments and their enormous biodiversity. Bio-prospecting, exploitation and use of microbes plants and animals and their physiological performance and genes can lead to novel products or sources for industrial applications.*
- ✓ **What has been done? 12 M€**
 - **Algae: Microalgae**
 - **Bioprospecting: Marine metagenomics, mining for bioactive compounds**
- ✓ **WP2010 opened call**

<i>Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products</i>	CP-FP (up to 3)
<i>Learning from research projects: specific dissemination action to potential users in marine genomics</i>	CSA-CA
<i>Modification of marine or freshwater algae to better suit industrial applications</i>	CP-IP
Innovative aquatic biosensors	CP-FP (up to 2)



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Activity 2.3 - Biotechnologies



2.3.3. Industrial biotechnology

✓ **Objective:** *Enabling industry to deliver novel products which cannot be produced by conventional industrial methods or replacing chemical processes by using novel and improved biocatalysts and microorganisms.*

What has been done? 24 M€

- **Enzymes:** Lipid enzymes, Oxidative enzymes, Cellulases, *in-silico* rational design
- **Microbial pathway engineering:** Lantibiotic Production
- **Bioreactors:** Biocatalytic cascade engineering

✓ **WP2010 opened call**

Robust and novel biocatalysts for industrial applications	CP-FP (up to 3)
Biotechnology for 'greening' the chemical industry - Industrial bioprocesses for fine and speciality chemicals and intermediates	CP-IP

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Activity 2.3 - Biotechnologies



2.3.4. Biorefinery

- ✓ **Objective:** *Development and application of industrial biotechnologies for the conversion of renewable raw materials into sustainable and cost-efficient bulk bio-products (e.g. chemicals, biopolymers), and/or bio-energy.*
- ✓ **What has been done? 24 M€ - Joint call**
 - **Cell wall deconstruction: Pre-treatment, hydrolysis**
 - **Biofuels: Bioethanol from lignocellulose**
 - **Bioresidues into bioproducts: animal waste, bark and forest residues**
 - **Cross-cutting: Sustainability certification schemes**
- ✓ **WP2010 opened call**



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Activity 2.3 - Biotechnologies



2.3.5. Environmental biotechnology

- ✓ **Objective:** *Application of biotechnologies for the development of more environmentally benign products and processes as well as for prevent and clean-up pollution. Understanding of microbial biodiversity and ecology leading to the unravelling of new genes and pathways.*
- ✓ **What has been done? 12 M€**
 - **Bioremediation: Polyaromatic hydrocarbon compounds**
 - **Bioexploration: Metagenomics for degradation of recalcitrant compounds**
- ✓ **WP2010 opened call**

Biotechnology for the environment - Soil and water treatment and bioremediation	CP-FP (up to 3)
Approaches towards bioremediation of the Mediterranean Sea by exploring its microbial diversity – SICA (Mediterranean Partner Countries)	CP-FP
Coping with water scarcity in developing countries: Role of biotechnology in water treatment – Mandatory ICPC (Africa)	CSA-CA
Microbial diversity and metagenomic mining for biotechnological innovation	CP-IP

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Activity 2.3 - Biotechnologies



2.3.6. Emerging trends in biotechnology

- ✓ **Objective:** *Novel technologies and new trends in biotechnology are instrumental for the rational advancement of the KBBE. Effective effective transfer and implementation of emerging trends into industrial applications.*
- ✓ **What has been done? 27 M€**
 - **Nanobiotechnology:** monitoring living cells, on-line measurement of bioprocess, nanoporous membranes, biosensors
 - **Bioinformatics:** microbial pathway genomics
 - **Systems biology:** *in-silico* design of cell factories
- ✓ **WP2010 opened call**



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Open Calls 2010

www.cordis.europa.eu/fp7/kbbe/home_en.htm

FP7 Calls

Cooperation

Ideas

People

Capacities

Euratom

Food, Agriculture and Fisheries, and Biotechnology Calls: FP7-KBBE-2010-4

Information Package | Electronic Proposal Submission Service (EPSS)
Additional Documents | Get Support | Build Your Consortium

KBBE 2010 : general call for proposals

EPSS is now available for this call for proposals

Identifier: FP7-KBBE-2010-4

Publication Date: 30 July 2009


Budget: € 190 010 000

Deadline: 14 January 2010 at 17:00:00 (Brussels local time)

OJ Reference: OJ C177 of 30 July 2009

Specific Programme(s): Cooperation

Theme: Food, Agriculture and Fisheries, and Biotechnology

Restrictions to Participation: See eligibility criteria in the work programme 

Additional Information:

- **FP7-KBBE-2010-4**
(190 M EUR)
- **FP7-AFRICA-2010**
(63 M EUR)
- **FP7-INFLUENZA-2010**
(18 M EUR)
- **FP7-OCEAN-2010**
(34 M EUR)
- **FP7-ERANET-2010**
(21.5 M EUR)





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General Call for proposals FP7-KBBE-2010-4

- Budget *indicative*: 190 M Euro
 - Activity 2.1 71.54
 - Activity 2.2 56.95
 - Activity 2.3 53.02
 - Other activities 5.5
- Date of publication: 30 July 2009
- Closure date: 14 Jan 2010 (17:00 Brussels)
- Number of Topics: 48



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Call for AFRICA FP7-AFRICA-2010

- Aim of the call:

Targeted research effort to meet the challenges for Water, Food Security and better Health for Africa (Africa-EU Strategic Partnership)

HEALTH.2010.3.4-2: Feasibility and community effectiveness of innovative intervention packages for maternal and new-born health in Africa (CP-FP-SICA)

KBBE.2010.1.-2-03: Sustainable water resources management (WRM) and Soil fertility conservation for food production in Africa (CP-IP-SICA)

KBBE.2010.2.2-03: Identifying research needs on malnutrition in Africa (CSA)

KBBE.2010.3.5-02: Coping with water scarcity in developing countries: Role of biotechnology in water treatment (CSA)

ENV.2010.1.3.3-1: Early warning and forecasting systems to predict climate related drought vulnerability and risks in Africa (CP-FP-SICA) ... for example



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Call 'The Ocean of tomorrow' FP7-OCEAN-2010

- Aim of the call:

Targeted research effort to assess rapid environmental changes that affect the full range of goods and services provided by the oceans

OCEAN.2010-1: Quantification of climate change impacts on economic sectors in Arctic (CP-IP)

OCEAN.2010-2: Vectors of changes in marine life, impact on economic sectors (CP-IP)

OCEAN.2010-3: Sub-seabed carbon storage and the marine environment (CP-IP)



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Call for INFLUENZA FP7-INFLUENZA-2010

- Aim of the call:

Targeted research effort to meet the challenges of the recent outbreak of a novel human influenza virus

HEALTH.2010.2.3.3-4:

Novel therapeutics against influenza (CP-FP)

KBBE.2010.1.3-05:

Swine influenza surveillance network (CSA)

KBBE.2010.1.3-06:

Pathogenesis and transmission of influenza in pigs (CP-IP)



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Call ERANET FP7-ERANET-2010-RTD

- Aim of the call:

Targeted research effort to develop and strengthen the coordination and networking of national and regional research programmes

KBBE.2010.1.1-02: Deepened and enlarged European cooperation in the area of Molecular Plant Sciences (CSA)

KBBE.2010.1.2-06: Deepened and enlarged cooperation between phytosanitary (statutory plant health) research programmes (CSA)

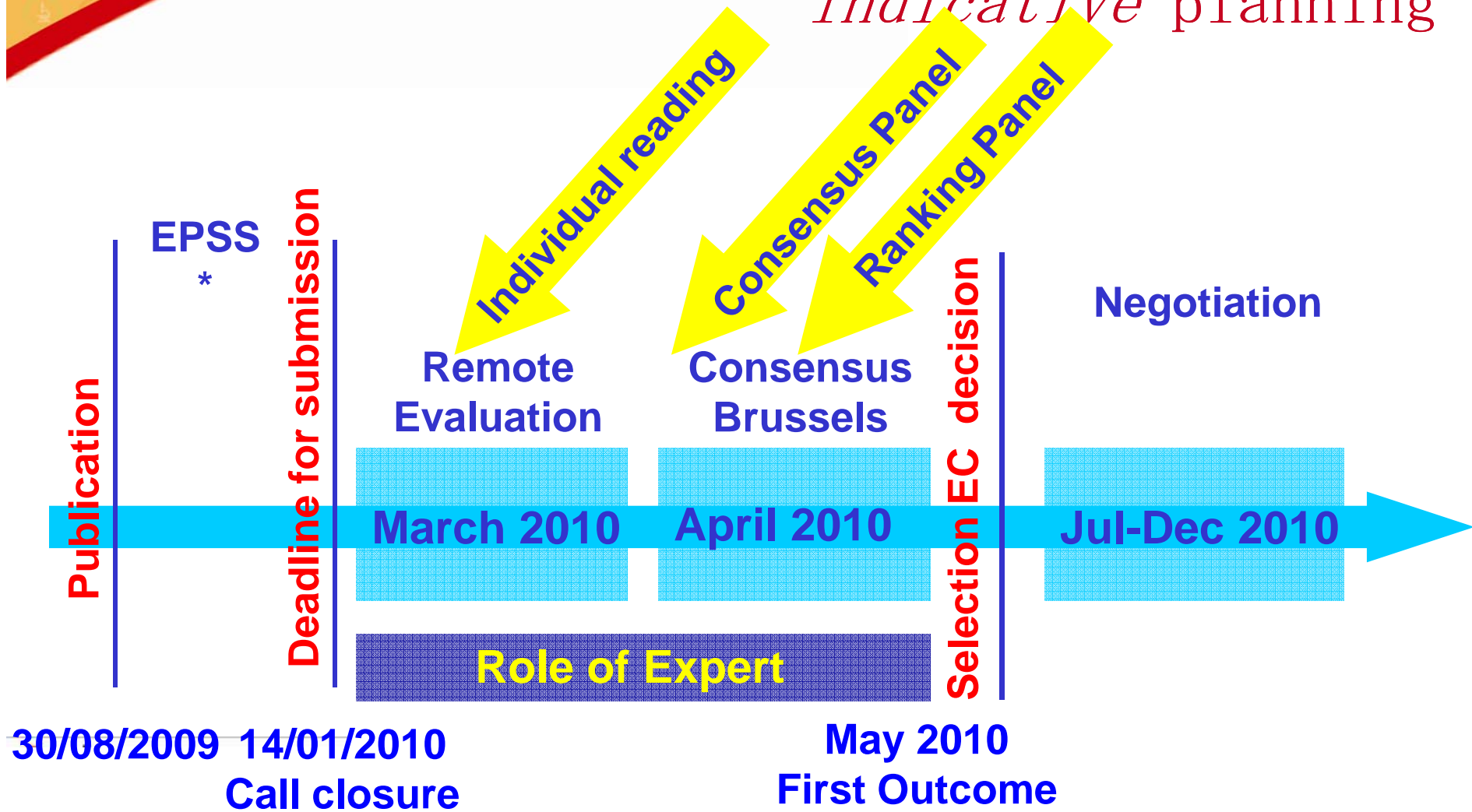


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FP7-KBBE-2010-4

Evaluation and selection process *indicative* planning



* Electronic Proposal Submission Service (EPSS) now available for this call for proposals



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Consensus Panel Who's who



☛ all proposals evaluated
with confidentiality and impartiality

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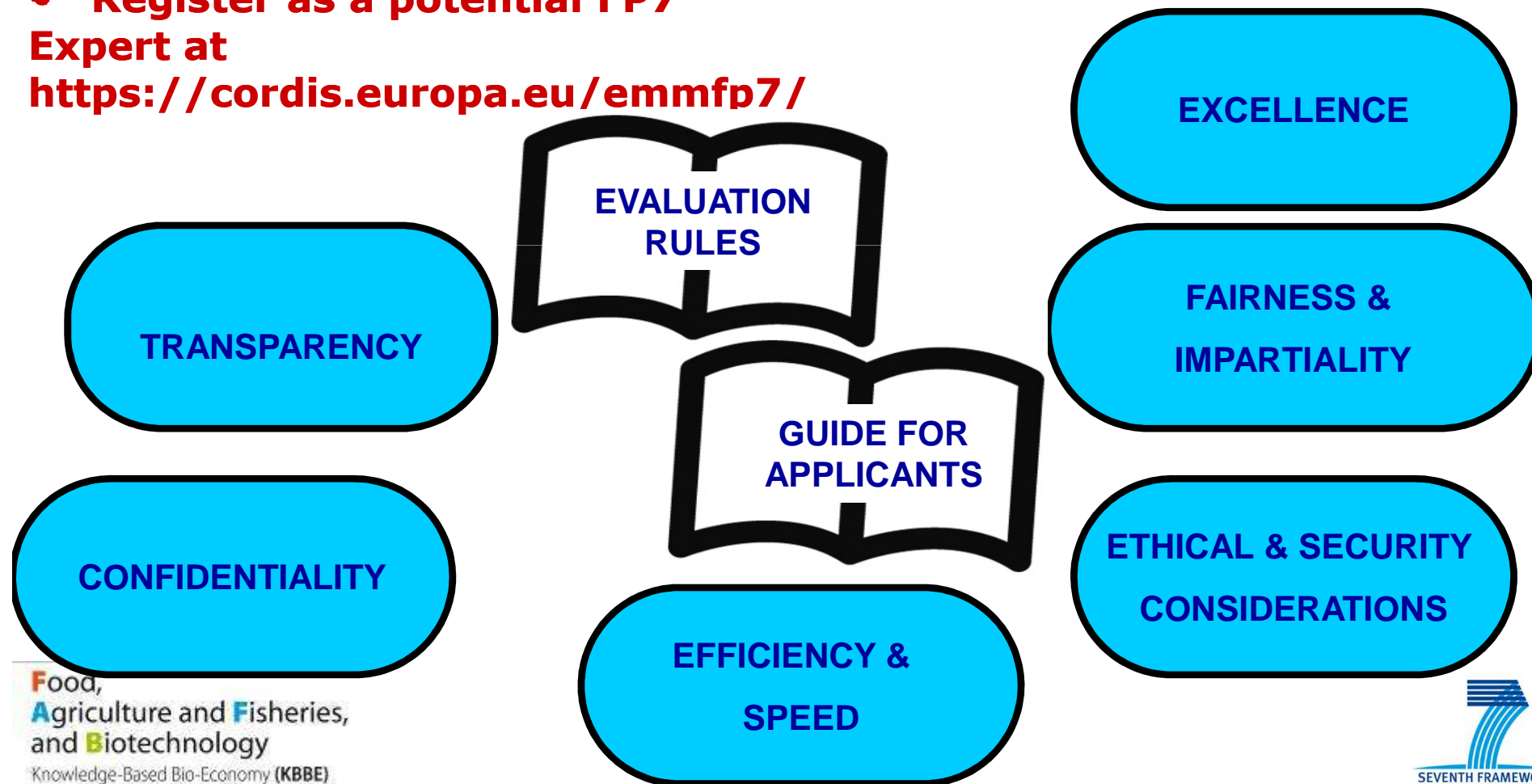
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Evaluation process

Basic principles

➔ Register as a potential FP7
Expert at
<https://cordis.europa.eu/emmfp7/>



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➔ www.cordis.europa.eu/fp7/kbbe/home_en.htm

EU research

<http://www.europa.eu/comm/research>

6th Framework Programme

<http://cordis.europa.eu/fp6/dc/index.cfm?fuseaction=UserSite.FP6HomePage>

7th Framework Programme

<http://cordis.europa.eu/fp7/>

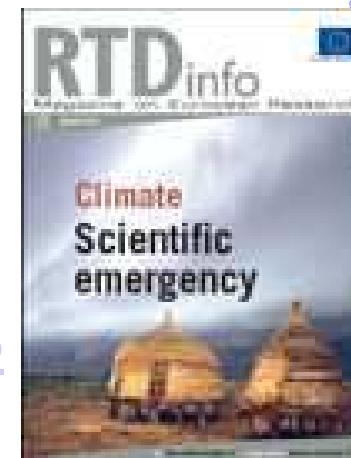
DG Research Site

<http://ec.europa.eu/research/index.cfm>

RTD info magazine

<http://ec.europa.eu/comm/research/rtdinfo>

EC Web sites



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