

FP7 2012 Work Programme International Dimension Opportunities for Brazil

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FP7 Work Programmes

- Legal basis for the implementation of FP7
- Contain full information on the calls for proposals to be published in 2011-2012
 - Details of topics and expected impacts, budgets and timing of calls etc
- Work programme of actions of over €8 billion, including:
 - 39 calls issued on 20 July 2011 with budget of €5.31 billion
 - Additional 15 calls for €1.74 billion to be issued in 2011-2012
 - Other non-call activities also included



Participation of Brazil in FP7

- All areas of FP7 open to the participation of Brazilian researchers and/or research organisations
- Brazil is an International Cooperation Partner Country (ICPC)
 - Same rights and obligations for receiving funding as MS
- Consortia must have the minimum required number of MS/AC participants



- Two major calls – 20 July, €654 million – indicated max. funding is an eligibility criterion and must not be exceeded
- Research priorities:
 - Major focus on: ageing, including health systems, medical technologies, rare diseases
 - Other areas covered: personalised medicine, availability of organs for replacement, better understanding of ageing, chronic diseases related to ageing, adapting healthcare to specific needs, poverty related diseases and public health to contribute to Millennium Development Goals
- Strong emphasis on SMEs, innovation and medical technologies sector
- Supporting Pilot Initiative on Active and Healthy Ageing and the ongoing Innovative Medicines Initiative PPP

Health – Interest for Brazil

- All topics of the main call FP-HEALTH-2012-INNOVATION-1 are open for Brazilian participation
- Topics of particular interest (targeted to Brazil): none
- Other topics in areas of mutual interest but not specifically targeted to LAC:
 - Support for international rare disease research **[HEALTH.2012.2.1.1-1-A]**
 - Co-infection of HIV/AIDS, malaria, tuberculosis and/or hepatitis **[HEALTH.2012.2.3.2-1]**
 - Co-morbidity between infectious and non-communicable diseases **[HEALTH.2012.2.3.2-2]**
 - Prevention and treatment for HIV/AIDS, malaria and tuberculosis **[HEALTH.2012.2.3.2-3]**
 - Low-cost interventions for disease control in resource poor settings **[HEALTH.2012.2.3.2-4]**
 - Innovative approach to manage diabetes disease control in resource poor settings **[HEALTH.2012.2.4.3-1]**
 - Best practice and knowledge sharing in the clinical management of rare diseases **[HEALTH.2012.4.4-3]**
 - Research on health systems and services in low- and middle-income countries **[HEALTH.2012.3.4-1]**
 - The impact of ethics reviews on health research – part of ‘other activities’ in WP2012 with invited experts
 - Communicating the benefits of European research to the general public international rare disease research **[HEALTH.2012.4.1-4]**.



- One call - 20 July (€304.57 million)
- Research Priorities
 - Sustainable primary production; mitigating and adapting to climate change
 - Low carbon and resource efficient industry
 - Food security and safety for Europe and beyond
 - Socially inclusive and healthy Europe
- Calls have an emphasis on
 - Completing ERA
 - Linking existing and new initiatives for the bio-based economy
 - Stimulating innovation including knowledge transfer
 - Supporting European policies (CAP, CFP, Key Enabling Technologies etc)
 - Supporting international initiatives (eg. Millennium Development Goals)
- Cross-thematic approaches under 'The Ocean of Tomorrow'

KBBE – Interest for Brazil (1)

- All topics open for Brazilian participation
- Topics of particular interest (targeted to Brazilian): none
- Other topics in areas of mutual interest but not specifically targeted to LAC:
 - Improving seeds for agriculture and conservation activities **[KBBE.2012.1.1-01]**
 - Development of seed testing methods for pests and pathogens of plant health concern **[KBBE.2012.1.2-05]**
 - Development and evaluation of scientific methodologies for cost-effective risk-based animal health surveillance **[KBBE.2012.1.3-01]**
 - Improved management practices and alternative treatments to improve animal health in organic farming systems **[KBBE.2012.1.4-04]**
 - Volatility of agricultural commodity markets **[KBBE.2012.1.4-05]**
 - International comparisons of product supply chains in the agro-food sectors: determinants of their competitiveness and performance on EU and international markets **[KBBE.2012.1.4-09]**



KBBE – Interest for Brazil (2)

- Continuation of topics of potential interest
 - Automation in food packaging systems **[KBBE.2012.2.3-03]**
 - Insects as novel sources of protein – SICA **[KBBE.2012.2.3-05]**
 - Environmental contaminants in seafood and their impact on public health (The Ocean of Tomorrow) **[KBBE.2012.2.4-01]**
 - Strengthening cooperation for global food safety research **[KBBE.2012.2.4-03]**
 - Post-market monitoring of GMOs based on epidemiological studies **[KBBE.2012.2.4-05]**
 - A comparative analysis of global versus local food supply systems **[KBBE.2012.2.5-03]**
 - Innovative biotechnologies for tackling oil spill disasters (The Ocean of Tomorrow) **[KBBE.2012.3.5-01]**
 - Verification of GMO risk assessment elements and review and communication of evidence collected on the biosafety of GMO **[KBBE.2012.3.3-05]**



- ICT Calls - 20 July 2011 (Call 8: €785 million), 18 January 2012 (Call 9: €291 million), 18 May 2012 (€80 million)
- Three Cross-thematic calls - Factories of the Future (20 July; 160 million); Energy-Efficient Buildings (20 July; 140 million); ICT for Green Cars (20 July; €330 million)
- Extension of 2011 work programme into 2012
- Challenges focused on Europe's presence in basic ICT technologies and infrastructures:
 - pervasive and trusted network and service infrastructures
 - cognitive systems and robotics
 - alternative paths to components and systems
 - technologies for digital content and languages
- Reinforced ICT contribution to Europe's major socio-economic challenges
 - ICT for health, ageing well, inclusion and governance
 - ICT for a lower carbon economy
 - ICT for manufacturing & factories of the future
 - ICT for learning and access to cultural resources
- Support also for Future and Emerging Technologies (FET)
- Reinforced and focused support to international cooperation
- Support to energy efficient growth, involving SMEs and users in feeding innovation and contributing to European and global standards

- All topics are open to participation by Brazil
- Call 8, 26/7/11 – 17/1/12, ~785 M€
- Topics of potential interest for Brazil
- **Challenge 1: Pervasive and Trusted Network and Service Infrastructures**
 - Future Networks **[ICT 2011.1.1]**
 - Cloud Computing, Internet of Services and Advanced Software Engineering **[ICT 2011.1.2]**
 - Trustworthy ICT **[ICT 2011.1.4]**
 - Future Internet Research and Experimentation (FIRE) **[ICT 2011.1.6]**
- **Challenge 3: Alternative Paths to Components and Systems**
 - Very Advanced Nanoelectronic Components: Design, Engineering, Technology and Manufacturability **[ICT 2011.3.1]**
 - Smart Components and Smart Systems Integration **[ICT 2011.3.2]**
 - Core and Disruptive Photonic Technologies **[ICT 2011.3.5]**

- **Challenge 4: Technologies for Digital Content and Languages**
 - Intelligent Information Management **[ICT 2011.4.4]**
- **Challenge 6: ICT for a Low Carbon Economy**
 - Smart Energy Grids **[ICT 2011.6.1]**
 - ICT for Efficient water Resources Management **[ICT 2011.6.3]**
 - Cooperative Systems for Energy Efficient and Sustainable Mobility **[ICT 2011.6.7]**
- **Challenge 8: ICT for Learning and Access to Cultural Resources**
 - Technology-Enhanced Learning **[ICT 2011.8.1]**

- **Future and Emerging Technologies (FET)**

- Proactive: Unconventional Computation (UCOMP) **[ICT 2011.9.6 FET]**
- Proactive: Dynamics of Multi-Level Complex Systems **[ICT 2011.9.7 FET]**
- Proactive: Minimising Energy Consumption of Computing to the Limit (MINECC) **[ICT 2011.9.8 FET]**
- Coordinating Communities, Identifying New Research Topics for FET Proactive Initiatives... **[ICT 2011.9.12]**
- Science of Global Systems **[ICT 2011.9.14]**

- **Horizontal Actions**

- Pre-Commercial Procurement Actions **[ICT 2011.11.1]**

Call 9, 18 Jan 12 – 17 Apr 12, ~291 M€

- **Challenge 2: Cognitive Systems, Interaction, Robotics**
 - Cognitive Systems and Robotics **[ICT 2011.2.1]**
- **Challenge 4: Technologies for Digital Content and Languages**
 - Digital Preservation **[ICT 2011.4.3]**
- **Challenge 5: ICT for Health, Ageing Well, Inclusion and**
 - Virtual Physiological Human **[ICT 2011.5.2]**
- **Challenge 8: ICT for Learning and Access to Cultural Resources**
 - ICT for Access to Cultural Resources **[ICT 2011.8.2]**

Call 9, 18 Jan 12 – 17 Apr 12, ~291 M€ - continuation:

- **Future and Emerging Technologies**

- Proactive: Quantum ICT (QICT) including ERA-NET-Plus **[ICT 2011.9.9 FET]**
- Proactive: Fundamentals of Collective Adaptive Systems (FOCAS) **[ICT 2011.9.10 FET]**
- Proactive: Neuro-Bio-Inspired Systems (NBIS) **[ICT 2011.9.11 FET]**
- Coordinating Communities, Identifying New Research Topics for FET Proactive Initiatives... **[ICT 2011.9.12]**

- **International Cooperation**

- International Partnership Building and Support to Dialogues (Enable Partnership Building in Low and Middle Income Countries, incl. Africa) **[ICT 2011.10.3]**

- Four calls - 20 July, €292.5 million
- Three cross-thematic calls - Factories of the Future, Energy Efficient Buildings and Green Cars - 20 July (€335 million)
- Focus on smart and sustainable growth for a greener industry
- Challenges addressed include:
 - Energy and energy efficiency
 - Environmental issues and sustainability
 - Raw materials
 - Health and safety
 - Factories of the future
 - European energy-efficient buildings
 - Green cars

NMP – Interest for Brazil

- All topics open for Brazilian participation
- Other topics in areas of mutual interest but not specifically targeted to Brazil:
 - Networking of ETPs and main materials collective stakeholders in materials science and engineering **[NMP.2012.2.3-1]**
 - Total safety management for industrial organisations - international cooperation welcomed **[NMP.2012.3.0-2]**
 - Support for standardisation needs **[NMP.2012.4.0-2]**
 - New environmentally friendly approaches in minerals processing **[NMP-2012.4.1-1]**
 - Development of advanced magnetic materials without, or with reduced use of, critical raw materials **[NMP.2012.4.1-3]**
 - Adaptive production systems and measurement and control equipment for optimal energy consumption and near-to-zero emissions in manufacturing processes **[FoF.NMP.2012-1]**

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- Call part 1 – 20 July 2011, €141 million
- Call part 2 – 20 July 2011, €81 million
- Call: Smart Cities and Communities – 20 July, €40 million
- 3 calls, incl. 2 cross-thematic ones – 20 July, €57 million

Focus on implementing the SET Plan and country and regional roadmaps

- Hydrogen and fuel cells
- Renewable electricity generation
- Renewable fuel production
- Renewables for heating and cooling
- CO2 capture and storage technologies for zero emission power generation
- Clean coal technologies
- Smart energy networks
- Energy efficiency and savings
- Knowledge for energy policy making
- Cross-cutting actions and horizontal programme actions

All topics open for Brazilian participation

Energy – Interest for Brazil

- All topics open for Brazil participation
- Topics of particular interest may include:
 - Research, development and testing of solar dish systems - Twinning (Programme Level Cooperation) **[ENERGY.2012.2.5.1]**
 - Development and testing of advanced sustainable bio-based fuels for air transport **[ENERGY.2012.3.2.2]**
 - Biofuels from microalgae or macroalgae **[ENERGY.2012.3.2.1]**
 - Impact of the quality of CO₂ on transport and storage (CSLF countries, in particular the US, Canada and China) **[ENERGY.2012.5.2.2]**

Environment

- Two calls - 20 July - €255 million
- Focus on five challenges for resource efficiency and climate resilience:
 - Coping with climate change
 - Sustainable use and management of land and seas
 - Improving resource efficiency
 - Protecting citizens from environmental hazards
 - Mobilising environmental knowledge for policy, industry and society
- Most topic areas are evaluated through a two-stage process
- Emphasis on innovation
- All topics open to international participation



Environment – Interest for Brazil

- All topics open for Brazilian participation
- Topics with international collaboration encouraged:
 - Seasonal-to-decadal climate predictions towards climate services **[ENV.2012.6.1-1]**
 - Development of advanced techno-economic modeling tools for assessing costs and impacts of mitigation policies **[ENV.2012.6.1-2]**
 - Strategies, costs and impacts of adaptation to climate change **[ENV.2012.6.1-3]**
 - Exploration of the operational potential of the concepts of ecosystem services and natural capital to systematically inform sustainable land, water and urban management **[ENV.2012.6.2-1]**
 - Long-term monitoring experiment in geologically active regions of Europe prone to natural hazards: the Supersite concept **[ENV.2012.6.4-2]**
 - Integrating environmental and health data to advance knowledge of the role of environment in human health and well-being **[ENV.2012.6.4-3]**

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- Seven calls to be published on 20 July
 - Aeronautics (three calls - €145 million)
 - Surface Transport (one call - €114 million)
 - Horizontal issues (two calls - €36 million)
 - Cross-thematic (one call - €35 million)
- Three strategic research and innovation priorities for 2012:
 - Eco-innovation
 - Safe and seamless mobility
 - Competitiveness through innovation

Transport – Interest for Brazil

- All topics open for Brazil participation
- Topics of particular interest may include:
 - Reduction of the vulnerability of the European Transport System to extreme weather events and natural disasters (ICPC + other countries e.g. USA, Japan) **[Topic: TPT.2012.2-2]**
 - Aerostructures **[Topic: AAT.2012.3.3-1]**
 - Aircraft Safety: Systems and equipment **[Topic: AAT.2012.3.3-2]**; Human factors **[Topic: AAT.2012.3.3-4]**; Propulsion: tolerance to particle ingestion **[Topic: AAT.2012.3.3-5]**; Innovative approach to helicopter safety **[Topic: AAT.2012.3.3-7]**
 - Operational Safety: Design systems and tools **[Topic: AAT.2012.3.4-1]**; Maintenance **[Topic: AAT.2012.3.4-2]**; Airports **[Topic: AAT.2012.3.4-4]**; Human factors **[Topic: AAT.2012.3.4-5]**; Integrated approach to safe flights under icing conditions **[Topic: AAT.2012.3.5-1]**

Socio-Economic Sciences and the Humanities (SSH)

- Two calls - 20 July - €87 million
- Four priorities for 2012 work programme:
 - The Innovation Union in support of smart growth
 - Inclusive and sustainable growth
 - Reshaping the European economy and strengthening the political unity of the EU
 - Support for developing the external policies of the EU

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SSH – Interest for Brazil

- Topics of particular interest (targeted to Brazil):
 - Social innovation for vulnerable populations **[SSH.2012.2.1-2]** (ICPC, at least 2 Brazilian partners)
 - Towards an Atlantic Area? - SICA **[SSH.2012.4.1-1]**
- Other topics in areas of mutual interest but not targeted specifically to LAC:
 - Social innovation against inequalities **[SSH.2012.2.1-1]**
 - Making longevity an asset for economic and social **[SSH.2012.3.1-1]**
 - Human rights in EU external relations and internal policies **[SSH.2012.4.2-01]**

- One call - 20 July - 84 million
- Focus in 2012:
 - The development of GMES
 - (Pre)-operational validation of GMES services and products
 - Support to the coordinated provision of observation data
 - Development of earth observation satellites
 - Strengthening the foundations of space S&T
 - Research to support space science and exploration
 - Research to support space transportation and key technologies
 - Cross-cutting activities

Space – Interest for Brazil

- All topics open for Brazilian participation
- Topics with international cooperation encouraged:
 - GMES Climate Change – Data archiving and exchange **[Topic: SPA.2012.1.3-03]**
 - Consolidation of user requirements for GMES **[Topic: SPA.2012.1.3-04]**
 - Exploitation of space science and exploration data **[Topic: SPA.2011.2.1-01]**
 - Key technologies enabling observations in and from space **[Topic: SPA.2011.2.2-01]**
 - Key technologies for in-space activities **[Topic: SPA.2011.2.2-02]**

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- One call - 20 July - €241.7 million
- Seven activity areas:
 - Security of citizens
 - Security of infrastructures and utilities
 - Intelligent surveillance and border security
 - Restoring security and safety in case of crisis
 - Security systems integration, interconnectivity and interoperability
 - Security and society
 - Security research coordination and structuring

Security Interest for Brazil

- All topics open for participation of Brazil
- Topics of potential interest, all of which call for international cooperation, include:
 - Drinking water security management and mitigation against CBRN contamination [Topic: SEC.2012.1.5-02]
 - Countering illegal export of metal-bearing waste [Topic: SEC.2012.2.2-1]
 - Air traffic management/control threat assessment [Topic: SEC.2012.2.2-2]
 - Improving security in air cargo transport [Topic: SEC.2012.2.2-3]
 - Aviation security - reducing costs and facilitating passenger flows [Topic: SEC.2012.2.2-4]
 - Security of supply chain [Topic: SEC.2012.2.4-1]
 - Development of mobile laboratories/facilities for rapid assessment of CBRN events [Topic: SEC.2012.4.4-1]
 - Use of communication/social media in crises [Topic: SEC.2012.6.1-3]

Research Infrastructures

- One call - 20 July - €90 million
- Last call in FP7, call budget to be supplemented in 2013
- Main lines of action:
 - Support to existing research infrastructures
 - Support to new research infrastructures/major upgrades
 - Support for policy development/programme implementation



Research Infrastructures – Interest for Brazil

- All topics open for Brazilian participation
- Topics of particular interest may include:
 - Coordination actions, conferences and studies supporting policy development, including international cooperation, for e-Infrastructures. International cooperation in Research and Education Networking **[Topic:INFRA-2012-3.3]**
 - Biological Resources Centres for micro-organisms **[Topic:INFRA-2012-1.1.6]**
 - Experimental facilities for animal disease infectiology **[Topic:INFRA-2012-1.1.7]**
 - Plant Genetic Resources Centres. The project will also develop activities for the identification and rescue of endangered resources. **[Topic:INFRA-2012-1.1.10]**

- One call - 20 July - €37.4 million
- Focus on enabling responsible research and innovation (RRI) in the European Research Area
- All topics open for participation of Brazil
- Topics calling for international cooperation, which may be of potential interest include:
 - International coordination in RRI
 - Scientific data: open access, dissemination, preservation and use

International Cooperation

- Two calls - 20 July - €32 million
- Focus on
 - Bi-regional cooperation for addressing societal challenges, supporting policy dialogue and developing cooperation in innovation (INCO-NET)
 - Targeted at: sub-Saharan Africa, **Latin America and Caribbean**, Mediterranean Partner Countries, South East Asian Countries
 - Bilateral coordination for the enhancement and development of S&T partnerships (BILAT)
 - Targeted at Australia, **Brazil**, China, India, New Zealand, Russia, South Africa, South Korea, USA and Argentina, Chile, Jordan, Mexico, Morocco, Ukraine



International Cooperation: INCO-NET - SSA

- Specific activities foreseen:
 - Support to the implementation of the EU-LAC Summit Madrid Action Plan and particularly to the implementation of the Joint Initiative for Research and Innovation and its pilot activities focused on common major societal challenges
 - Provide a regional analysis on problems related to innovation framework conditions
 - Promote structured interactions between industrial research and innovation actors including innovation agencies of both regions
 - Propose a common methodology for assessing STI capacities of the Latin American and Caribbean sub-regions in relation to the thematic areas
 - Provide up to date analytical evidence and monitor progress and results
 - Support implementation of dialogue implementation
 - Contribute in other ways to strengthen cooperation and increase its effectiveness and impact

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International Cooperation - BILAT

- Activities with Brazil to include:
 - Supporting EU-Brazil institutional dialogue
 - Promoting FP and bilateral cooperation, joint activities etc
 - Monitoring progress in bilateral S&T cooperation
 - Supporting FP Contacts
 - Analysing innovation measures, national innovation systems, framework conditions for research and innovation
 - Promoting twinning of research organisations
 - Studying feasibility of establishing a joint European liaison office



Ideas Programme

- The European Research Council (ERC) – first pan-European funding organisation for frontier research
- ERC grants are rewarded, to attract or repatriate to Europe, early-career and senior top researchers, **of any nationality, and their teams**, for five-year projects
- PIs have to conduct their research project in any EU Member State or FP7 associated country (AC) -PIs need to physically spent at least 50% of their time in the MS/AC
- Investigator driven research / bottom-up approach. For all fields of research, from Social sciences and Humanities to Life Sciences and Physical Sciences. No thematic priorities. Scientific excellence is the only criterion for success

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Ideas Programme

- Grant packages: Starting Grant: up to €2 million / Advanced Grant: up to €3.5 million Starting Grant call - 20 July - €729.98 million / Advanced Grant call - 16 November - €679.98 million
- New Scheme: 'ERC Synergy': will support small groups of Principal Investigators working jointly on similar research projects - Up to €15 million/ grant over 6 years – call publication in October 2011 – for very limited number of projects
- Evaluation: single submission of proposal – 2 stage evaluation, interviews for some ERC schemes



Marie Curie Actions

- Two calls issued on 20 July 2011 (ITN and IRSES), six other from 19 October 2011 until 13 March 2012 - Total budget ca. €900 million;
- Nearly all Marie Curie Actions are open to Brazilian institutions and researchers;
- The '**World Fellowship**' calls are of particular interest to Brazil:
 - **IRSES** (funding eligible for staff exchange for both Brazilian researchers and institutions located in Brazil) - 20 July 2011 - €30 million;
 - **IOF** (for EU MS/AC researchers going to institutions in Brazil) - 13 March 2012 - €40 million;
 - **IIF** (for Brazilian researchers going to institutions in EU MS/AC) - 13 March 2012 - €40 million.



Marie Curie Actions – Interest for Brazil

Institutions located in Brazil are eligible in the following actions:

- **IRSES:** International Research Staff Exchange Scheme
- **ITN:** Initial Training Networks;
- **IAPP:** Industry-Academia Partnership and Pathways;
- **IOF:** International Outgoing Fellowships.

Researchers from Brazil are eligible in all above-mentioned actions (excluding IOF) and in the following actions:

- **COFUND:** Co-funding of Regional, National and International Programmes;
- **IIF:** International Incoming Fellowships;
- **CIG:** Career Integration Grants.