UNIVERSITY OF BIRMINGHAM

Research and Commercial Services

Fact Sheet

The EU Seventh Framework Programme

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This Fact Sheet provides outline information on FP7 (2007-2013, €50.5 billion), which is the European Union's main programme that supports research.

FP7: Four specific strands of activities

Cooperation – collaborative research and development

Organised around ten distinct Themes

1. Health
2. Food, Agriculture and Fisheries, and Biotechnology
3. Information and Communication Technologies
4. Nanosciences, Nanotechnologies, Materials and new Production Technologies
5. Energy
6. Environment (including Climate Change)
7. Transport (including Aeronautics)
8. Socio-economic Sciences and the Humanities
9. Space
10. Security

Each Theme is sub-divided into activities, areas and then *topics*. Proposals are typically for collaborative projects i.e. collaborative research grants involving several partners from different EU countries and must target a *topic* specifically.

Ideas – the European Research Council

The ERC supports excellent researchers to carry out research that is leading-edge, highly-innovative and excellent, in any research field. Proposals are investigator-driven. There is no need for multi-national partnerships. There are two schemes:

- **Starting Grants**, which aim to enable researchers who have gained their PhD typically within 2 and 10 years, either to get established and become independent ('starters') or to consolidate their position of professional independence ('consolidators').
- **Advanced Grants**, aimed at established researchers with a proven and excellent track record.

People – Marie Curie training schemes

This is aimed at supporting the training and career development of researchers, in all fields of research including Arts and the Humanities. Applicants freely choose the research topic of their application. Some of the Marie Curie schemes are:

- **Fellowships**, for hosting at the University a good post-doctoral researcher or established academic who at the time of the application typically resides typically in another EU country or overseas.
- **Initial Training Networks**, to recruit a cohort of PhD students and in some cases post-docs. A partnership of organisations is required, as well as industrial involvement, to put together and deliver a well defined, coherent and integrated research training programme.
- **Academia-industry partnerships and pathways**, which support two-way secondments (researchers, technicians, managers), recruitment of new staff and networking activities via a collaborative programme.
- **International Research Staff Exchange Scheme (IRSES)** to support and strengthen research partnerships through two way exchanges of staff and networking activities between European and overseas research organisations.

Capacities

Within this, the EU aims to enhance the research and innovation capacities of organisations and regions and ensure their optimal use, through activities such as Research Infrastructures; Research for the benefit of Small and Medium Enterprises (SMEs); Regions of Knowledge, and Science in Society.

Applying

FP7 is implemented through calls for proposals, typically with fixed deadlines. Information on the calls e.g. topics and other specific requirements can be found in the *Work Programme (WP)* which are revised for every call. There is a WP for Marie Curie and ERC but different ones for every Theme of Cooperation and activity under Capacities.

At the University, staff would usually get involved in FP7 as a participant *or partner*. Others who have the capacity and commitment may decide to be coordinators. Those who believe the main Themes are not relevant to them should consider applying to the Marie Curie schemes under People or the European Research Council.

Support and resources

Information on FP7, including early intelligence on calls for proposals and the University's legal data for taking part in applicantions, can be found on the University's FP7 website at: http://www.res.bham.ac.uk/information/eu/fp7

Staff from RCS and Research Finance are also on hand to provide support and guidance on FP7. Names can be found on the website above.

The FP7 official website is: http://cordis.europa.eu/fp7

10 Themes of FP7 Cooperation, in brief

1. HEALTH

This theme aims to improve the health of European citizens and increasing the competitiveness and boosting the innovative capacity of European health-related industries and businesses, while addressing global health issues including emerging epidemics.

Emphasis will be put on translational research (translation of basic discoveries into clinical applications including scientific validation of experimental results), the development and validation of new therapies, methods for health promotion and prevention including promotion of child health, healthy ageing, diagnostic tools and medical technologies, as well as sustainable and efficient health care systems.

The Theme is implemented through three pillars:

- Biotechnology, generic tools and medical technologies for human health
- Translating research for human health
- Optimising the delivery of health care to European citizens

2. FOOD, AGRICULTURE AND FISHERIES, AND BIOTECHNOLOGY

The theme aims to build a European Knowledge Based Bio-Economy by bringing together science, industry and other stakeholders, to exploit new and emerging research opportunities that address social, environmental and economic challenges: the growing demand for safer, healthier, higher quality food and for sustainable use and production of renewable bio-resources; the increasing risk of epizootic and zoonotic diseases and food related disorders; threats to the sustainability and security of agricultural, aquaculture and fisheries production; and the increasing demand for high quality food, taking into account animal welfare and rural and coastal contexts and response to specific dietary needs of consumers.

The Theme is implemented through three main activities:

- Sustainable production and management of biological resources from land, forest and aquatic environments
- Fork to farm: Food (including seafood), health and well being
- Life Sciences, biotechnology and biochemistry for sustainable non-food products and processes

3. INFORMATION AND COMMUNICATION TECHNOLOGIES

The theme aims to improve the competitiveness of European industry and enabling Europe to master and shape future developments in ICT so that the demands of its society and economy are met. ICT is at the very core of the knowledge-based society. Activities will strengthen Europe's scientific and technology base and ensure its global leadership in ICT, help drive and stimulate product, service and process innovation and creativity through ICT use and ensure that ICT progress is rapidly transformed into benefits for Europe's citizens, businesses, industry and governments. These activities will also help reduce the digital divide and social exclusion.

The Theme is implemented through seven Challenges:

- Pervasive and trusted network and service infrastructures
- Cognitive systems, interaction and robotics
- Components, systems and engineering
- Digital libraries and content
- Sustainable and personalised healthcare
- Mobility, environmental sustainability and energy efficiency
- Independent living and inclusion

There will also be an activity called Future and emerging technologies (FET) for high-risk blue-sky research.

4. NANOSCIENCES, NANOTECHNOLOGIES, MATERIALS AND NEW PRODUCTION TECHNOLOGIES

The theme aims to improve the competitiveness of European industry and generate knowledge to ensure its transformation from a resource-intensive to a knowledge-intensive industry, by creating step changes through research and implementing decisive knowledge for new applications at the crossroads between different technologies and disciplines. This will benefit both new, high tech industries and higher-value, knowledge-based traditional industries, with a special focus on the appropriate dissemination of RTD results to Small and Medium Enterprises (SME). Activities are concerned with enabling technologies which impact all industrial sectors.

The Theme is implemented through three main activities:

- Nanosciences and Nanotechnologies
- Materials
- New production
- Integration of technologies for industrial applications

5. ENERGY

The theme aims to adapt the current energy system into a more sustainable one, less dependent on imported fuels and based on a diverse mix of energy sources, in particular renewables, energy carriers and non polluting sources; enhancing energy efficiency, including by rationalising use and storage of energy; addressing the pressing challenges of security of supply and climate change, whilst increasing the competitiveness of Europe's industries. There are the following activities:

- Hydrogen and Fuel Cell
- Clean Coal Technologies
- Renewable Electricity Generation
- Smart Energy Networks
- Renewable Fuel Production Renewable for Heating and Cooling
- CO2 Capture and Storage technologies for Zero Emission Power Generation
- Knowledge for Energy Policy Making

6. ENVIRONMENT (INCLUDING CLIMATE CHANGE)

The Theme aims to promote sustainable management of the environment and its resources through advancing our knowledge on the interactions between the climate, biosphere, ecosystems and human activities, and developing new technologies, tools and services, in order to address in an integrated way global environmental issues.

Emphasis will be put on prediction of climate, ecological, earth and ocean systems changes, on tools and on technologies for monitoring, prevention, mitigation of and adaptation to environmental pressures and risks including on health, as well as for the sustainability of the natural and man-made environment.

- The Theme will be implemented through four main activities:
- Climate change, pollution and risks
- Environmental Technologies
- Sustainable Management of Resources
- Earth observation and assessment tools

7. TRANSPORT (INCLUDING AERONAUTICS)

The theme aims to develop integrated, safer, “greener” and “smarter” pan-European transport systems for the benefit of all citizens and society, respecting the environment and natural resources, and securing and further developing the competitiveness attained by the European industries in the global market.

The Theme will be implemented through four main activities:

- Aeronautics and air transport
- Cross thematic activities
- Sustainable surface transport
- GALILEO - EU Global Satellite navigation system

8. SOCIO-ECONOMIC SCIENCES AND THE HUMANITIES

The Theme aims to generate an in-depth, shared understanding of complex and interrelated socio-economic challenges Europe is confronted with, such as growth, employment and competitiveness, social cohesion, social, cultural and educational challenges in an enlarged EU, sustainability, migration and integration, quality of life and global interdependence, in particular with the view of providing an improved knowledge base for policies in the fields concerned. There are eight activities:

- Growth, employment and competitiveness in a knowledge society: the EU case
- Combining economic, social and environmental objectives in a European perspective: Paths towards sustainable development
- Major trends in society and their implications
- The Citizen in the European Union
- Foresight activities
- Europe in the World
- Socio-economic & scientific indicators
- Strategic Activities

9. SPACE [see Tab B9 for full details]

The theme aims to support a European Space Policy focusing on applications such as GMES (Global Monitoring for Environment and Security), with benefits for citizens, but also other space foundation areas for the competitiveness of the European space industry. Activities include space-based applications and space science and technology such as exploration and transportation.

10. SECURITY

The theme aims to develop the technologies and knowledge for building capabilities needed to ensure the security of citizens from threats such as terrorism and (organised) crime, natural disasters and industrial accidents while respecting fundamental human rights including privacy; to ensure optimal and concerted use of available and evolving technologies to the benefit of civil European security; to stimulate the co-operation of providers and users for civil security solutions; improving the competitiveness of the European security industry and delivering mission-oriented results to reduce security gaps. There are seven activities:

- Security of citizens
- Intelligent surveillance and border security
- Restoring security and safety in case of crisis
- Security systems integration, interconnectivity and interoperability
- Security and Society
- Security of infrastructures and utilities
- Security Research coordination and structuring

The Security theme will maintain an exclusively civil orientation

People - Marie Curie schemes

The Marie Curie (MC) schemes fall under the People programme of FP7. With these, applicants **freely choose the research topic** of their project proposal which may fall in **any research field** including arts and the humanities. There are ten different Marie Curie schemes; the main ones are:

- **Initial Training Network (ITN)**, provides financial support to a partnership of organisations to recruit a cohort of early-stage researchers (typically PhD students) around a well defined, coherent and integrated research training programme. Early-stage researchers do not need to be named at proposal stage; they are appointed through open recruitment during the project, from 3 to 36 months. Some experienced researchers (post-docs) can also be appointed for up to 24 months, for the purpose of finalising their initial training. Visits from international experts and networking activities including workshops are also allowed. Partnerships must be composed of at least 3 organisations such as universities, research centres and companies from 3 different EU countries and typically ITN projects would involve around 7 partners lasting up to 4 years.
- **Intra-European Fellowship (IEF)**, typically aimed at named experienced researchers (post-doc, any nationality) currently residing in a European country who would be hosted during the fellowship for up to two years at an institution located in a different European country, like the University of Birmingham. Through IEF, the MC fellows would acquire new research skills through research and training activities in order to attain and/or strengthen a leading independent position.
- **International Incoming Fellowship (IIF)**, aimed at named experienced researchers (any nationality) residing outside the EU who would be hosted during the fellowship for up to two years at an institution located in the EU, like the University of Birmingham. Through IIF, the MC fellows would carry out research and take part in knowledge transfer (transfer of know-how) activities to benefit the host institution, with a view to developing mutually beneficial research co-operation in the future.
- **International Outgoing Fellowship (IOF)**, aimed at named experienced European researchers (post-doc) who would be hosted during the fellowship, first, at an institution located outside the EU (for up to two years) followed by an institution located in the EU, like the University of Birmingham (for one year). Through IOF, the MC fellows would develop the international dimension of their career and have the opportunity of training to acquire new knowledge in a high-level research organisation.
- **Industry-Academia Partnerships and Pathways (IAPP)**, which is a project that typically brings several European organisations (HE and private commercial enterprise) together through two-way staff exchange (researchers; PhD students, technicians, research managers) through intersectoral secondments (2 months to 24 months, with split stays allowed over the duration of the project) and visits. Support is also available for the one to two year appointment of experienced researchers from outside the partnership into the project and networking activities (workshops, conferences, etc). People taking part in the two-way exchanges need to be employees of the sending institution and whilst all of them do not need to known at proposal stage, people being exchanged need to have been employed for at least 12 months by the sending institutions to qualify for secondments.
- **International Research Staff Exchange Scheme (IRSES)** supporting and strengthening research partnerships (projects may last up to 4 years) through two way exchanges (up to 12 months, with split stays possible over the duration of the project) of staff (PhD students, experienced researchers, technical and managerial staff) and networking activities between European research organisations and overseas organisations from countries with which the EU has a Scientific and Technological agreement i.e. Argentina, Australia, Brazil, Canada, China, Chile, Egypt, India, Japan, (Rep. of) Korea, Mexico, Morocco, New Zealand, Russia, South Africa, Tunisia, Ukraine, Unites States; Eastern Europe & Central Asia (EECA: Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine; and Mediterranean Partner Countries (MCP: Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestinian-administrated areas, Syrian Arab Rep., Tunisia)

Applying – procedures and tips

- Help and advice, including proposal examples, can be obtained from Xavier Rodde (x.rodde@bham.ac.uk) and Huma Mumtaz (h.mumtaz@bham.ac.uk) in RCS.
- Detailed information on the schemes above and other Marie Curie schemes can be found at: http://cordis.europa.eu/fp7/mariecurieactions/home_en.html
- The call webpage for Marie Curie is: http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.FP7CallsPage
- The success rate for the Fellowship schemes is about 30%. To be successful, it is that essential PIs identify prospective fellows carefully. These should be, or have the potential to be, good researchers and have the track record (even an early one) to show for it. PIs need to agree with the prospective fellows on the project aim, specific objectives and associated delivery/methodologies amongst other things. Also, the proposal is a joint effort, neither is the PI nor the prospective Fellow can write the proposal on their own.
- The ITN scheme is more competitive, although the University of Birmingham has a good track record for ITN as a coordinator. Most PIs will be partners in ITN proposals, requiring minimal effort at proposal stage. In ITN projects, it is important for Early Stage Researchers to spend time away from the main host organisation, at one or more other partner institutions through secondments and visits to enhance their research and training expertise. ITN partners would make available individual training resource to the network and it is also important to develop ITN level training provision too, hence realising the full potential of the training provision brought by the partnership for the benefits to the cohort of Early-stage Researchers.
- Proposals are submitted using the Electronic Proposal Submission System (EPSS). Applicants can therefore work on the proposal up to the day of the deadline. Proposals must be submitted before 5pm Brussels time. The day of the deadline will typically be busy for EPSS hence it is recommended not to leave it until the last minute to submit.