# AIR CARGO SECURITY POLICY NEWSLETTER

EU Security Research

Apr 9, 2011

The European Security Research Programme (ESRP) is a €1.4 billion component of the current seven-year EU Framework Research Programme (FP7, 2007-13). The ESRP has the twin objectives of enhancing public safety through the development of security technologies and fostering the growth of a globally competitive European 'Homeland Security' market.

THE ESRP is managed by the European Commission's Directorate General (D.G.) for Enterprise and Industry. Significant additional funding has also been allocated to the security aspects of other themes in the €51 billion EU FP7 programme (e.g. space, transport, energy, nanotechnology, etc). Improving security in air cargo transport will be a research topic included in the FP7 Security Theme “call” in the summer of 2011.

This newsletter discusses:

1. A 2010 EU Parliament Study – Review of security measures in the Research Framework Programme
2. A study on the impact on the UK of the EU Framework Programmes for Research and Technological Development (RTD)

**[1] European Parliament Study - Review of security measures in the Research Framework Programme[1]**

This study was commissioned by the European Parliament's 'Citizens' Rights and Constitutional Affairs' policy department.

The study asked two questions:

- To what extent is EU-funded security research placed at the service of citizens?
- To what extent does it contribute to the strengthening of a single area of fundamental rights and freedoms?

It charges ESRP with "*not doing sufficient towards strengthening a single area of fundamental rights and freedoms"*.

The newsletter editors feel that this may be questionable as a direct objective for security research. However the report is of interest to organisations responding to future research calls, as it provides an analysis of projects and participants in the 7th Framework Programme Security Theme (7FP-ST).

**Concern with fundamental freedoms and rights**

This EU report indicated concern that the 7FP-ST research programme is limited in its scope as it:

> *"…addresses security research through the concerns of security agencies and services and the industry, without taking into account the requirements flowing from the EU's internal area of freedom"*

and:

> *"…the private-public dialogue in security research is a limited dialogue because it has focalized almost exclusively on matters of security and industry to the detriment of a broader discussion of the impact of technology for security purposes on fundamental freedoms and rights.*

finally

> *" …dedicated to developing technologies of surveillance, to the detriment of a broader reflection on the impact of such technologies for citizens and persons concerned with the EU's security policies".*

While the issue of individual rights and freedoms is a valid subject of concern for EU research; however, is it reasonable to include this subject within the security research agenda?

The newsletter editors believe that there are other themes within the 7FP programme that could more profitably approach this avenue of research. Including fundamental rights and freedoms within the security research agenda is to some extent requiring that the "foxes will look after the chickens".

[1] Directorate General for Internal Policies – Review of security measures in the research Framework Programme PE 432.740

**Analysis of security research**

The findings of the report in relation to the projects and participants will be more of interest to newsletter readers.

Regarding participation the study states:

- *"Although the FP7 is open to institutions from all EU member states and associated third countries, organisations from five states (France, U.K., Italy, Sweden, Israel) have obtained the majority of allocated funds.*
- *Three types of institutions (transnational defence companies, applied research centres and governmental institutions) have obtained the majority of funds. They further account for the largest share of individual participation in, and coordination of, projects. This takes place at the expense of universities and NGOs, which remain largely under-represented……"*

It continues:

*"….EU funded research (in 2009) sponsored 39 actions and pilot projects for a total Community contribution of 44.5 M€. A third of these projects were coordinated by major defence and security companies such as Thales, EADS, Finmeccanica, Sagem and their European association ASD – most of which, were also involved in the proceedings of the European Security Research Advisory Board ( ESRAB) These companies also participated in two-thirds of the actions and pilot projects funded"….*

*"….The European Commission established the FP7 Security Theme following recommendations on the creation of a European Security Research Programme. Unlike the rest of FP7 research schemes that fall within the remit of DG Research, however, the Security Theme has been attributed to DG Enterprise and Industry…."*

*"….According to the Commission's initial figures, funding earmarked for the FP7-ST amount to 4% of the FP7's Cooperation Theme (1.350 M Euro out of a total of 32.650 M)….".*

The report highlighted the *"continuing predominance of the companies that had participated in ESRAB: out of 45 projects, these organizations totalled 32 individual participations, and had taken the lead on 7 projects – the strongest record being Thales, which was leading 3 projects and participating in10. This, the report claimed raised the political implications of having private companies defining public policies and being major beneficiaries thereof."*

The report viewed as a further problematic trend the "*overall focalisation of FP7-ST research on engineering issues and technological demonstration and development*"

It is difficult to agree with the authors of the study that the above criticism correctly relates to security research – rather criticism should could be leveled at the "time to market" of subjects and technologies addressed under the programme, due to the administrative challenges involved. This was one of the findings in the UK study on the impact of the EU Framework Programmes for RTD on the UK, discussed in the second section of the newsletter.

The remainder of this section of the EU Parliament study referenced the projects currently registered (as of September 2010) under the Security Theme within the Commission's CORDIS database; and, provided an analysis of States and entities participating in FP7-ST projects

**Unequal geographic distribution**

A first indicator of the dominance of large EU member states in the attribution of FP7-ST funding is the number of projects per country of origin of the main coordinating partner: France (19%), the United Kingdom (15%), Italy (11%) and Germany (10%) account for more than 55% of FP7-ST projects in this regard (See figure 1 and Table 1).

When looking at the geographical distribution of the total amount of FP7 funding per country of coordinating institutions (Figure 2), a similar pattern can be found. France, Italy, the U.K. and Sweden alone represent about 59% of the EU contribution. An exception is the percentage of total projects coordinated by Germany, which represents 10%, while only 7% of EU allocated funds go to German Institutions.

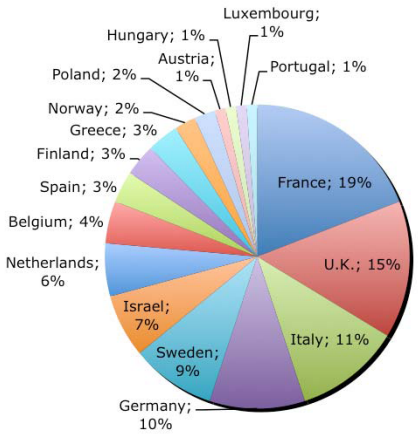


Figure 1 - number of coordinated projects by country of origin (Source [1])

| Country of Coordinator | No of projects | Total Cost (EUR) Million | EU Contribution (EUR) Million |
|---|---|---|---|
| France | 17 | 85.5 | 56.5 |
| U.K. | 13 | 69.4 | 46.6 |
| Italy | 10 | 67.6 | 34.3 |
| Sweden | 8 | 45,2 | 30.6 |
| Israel | 6 | 35.8 | 23.4 |
| Poland | 2 | 34.7 | 13.9 |
| Germany | 9 | 25,8 | 19.5 |
| Netherlands | 5 | 28.1 | 20.9 |
| Greece | 3 | 21.7 | 15.6 |
| Belgium | 4 | 10.1 | 7.5 |
| Norway | 2 | 7,3 | 5.4 |
| Finland | 3 | 5.8 | 4.2 |
| Spain | 3 | 5.6 | 4.4 |
| Luxembourg | 1 | 3.2 | 2.1 |
| Hungary | 1 | 1.2 | 0.8 |
| Portugal | 1 | 1.0 | 0.8 |
| Austria | 1 | 0.8 | 0.8 |

Table 1 - Number of projects by country of orgin, sorted by total cost (Source [1])

**Dominance of major defence and security companies**

"*A wide variety of organizations and institutions are encouraged to apply for EU funding through the FP7 scheme*[2]*. The analysis of coordinating institutions as well as partner institutions confirms, however, the trend outlined in previous evaluations. It is mostly large defence companies, the very same who have participated in the definition of EU-sponsored security research which are the main beneficiaries of FP7-ST funds*".

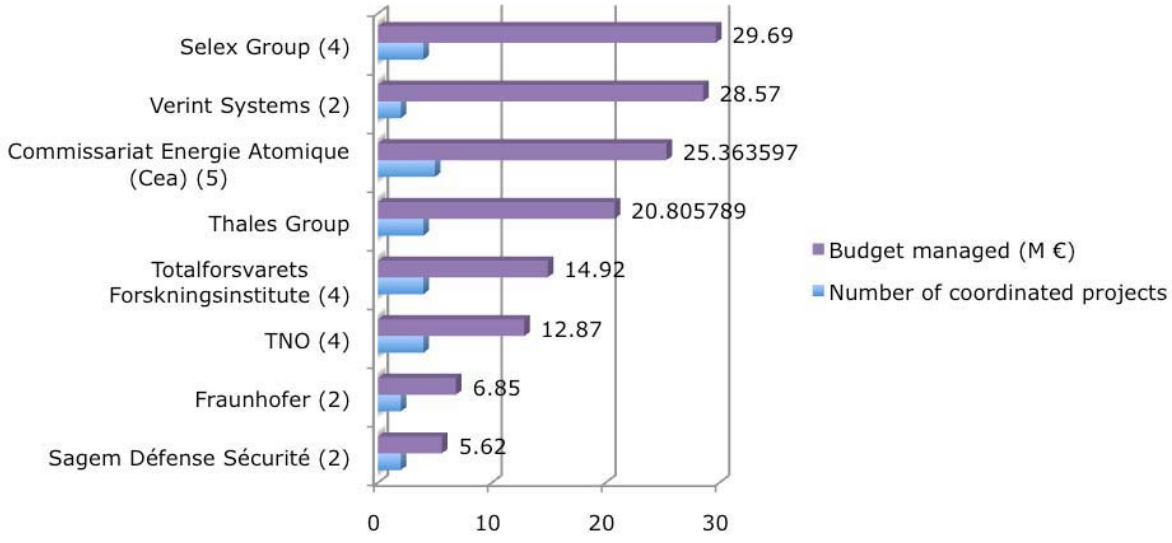


Figure 2 - number of coordinated projects by country of origin (Source [1])

The number of participations obtained by these organisations in FP7-ST research projects is shown in Figure 3

[2] In theory, any country in the world can apply for FP7. However, not all countries have equal access to funding. Institutions from EU member states enjoy unrestricted access, as well as third countries associated with the program (which pay a share of the overall budget of FP7). These are the EEA countries (Iceland, Norway, Lichtenstein), candidate countries Croatia, Turkey, as well as Israel and Switzerland. Institutions that are entitled to apply for FP7 funding include: 1) research groups at universities or research institutes; 2) companies intending to innovate, 3) small or medium-sized enterprises (SMEs); 4) SME associations or groupings; 5) public or governmental administration (local, regional or national); 6) early-stage researchers (postgraduate students); 7) experienced researchers; 8) institutions running research infrastructures of trans-national interest; 9) organisations and researchers from third countries; 10) international organisations; 11) civil society organisations.

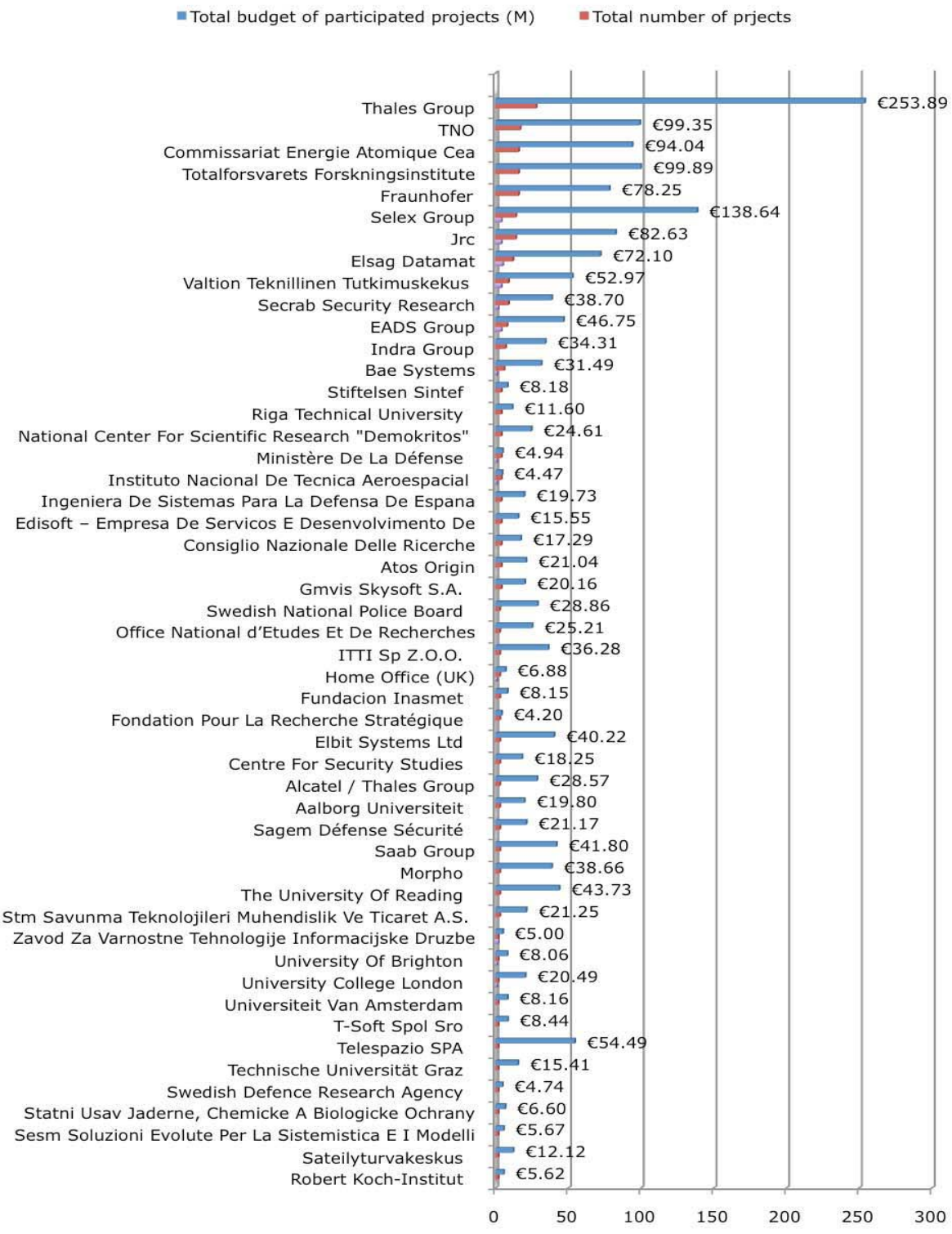


Figure 3 – Top 50 individual participations (Source [1])

Figure 2 highlights several features of the distribution of FP7 funds:

- "Organisations which obtain the largest number of projects are mostly of three kinds:
- Major defence and security companies (Thalès, Selex, Sagem etc)
- Major "applied research" institutions, (TNO, Fraunhofer, VTT etc.)
- Public research institutions (Forsvarets Forskninginstitut, CEA etc.)"

*"The overall quantity of funds linked to specific organisations is unevenly distributed. For example, on the total sum of € 443,2 million for the 91 FP7 projects analyzed in this note, companies such as the Thales group are involved in roughly one third of the projects (27), representing more than half the FP7-ST (57%) in terms of projects' total worth (€ 253.8 million).*

*Only 6 universities (Riga, Reading, Brighton, UCL, Amsterdam, Graz) and no NGOs are part of the top 50".*

**Key areas of research**

The report continued with a presentation of the "*evolving landscape of security practices and uses of technology for security purposes".*

It determined that the key areas of research in FP7-ST projects are:

1. Biometrics and identification;
2. Detection and surveillance;
3. Exchange of information, risk analysis and risk anticipation;
4. Critical infrastructure protection, crisis management and public safety; and
5. Freedom and privacy.

The report discussed each of these areas in the following terms:

**Biometrics and identification projects** *"represent € 21 million, i.e. about 4.76 % of the total costs of the 91 FP7s. The two projects specifically focused on biometric technologies are EFFISEC[3], which aims at developing efficient biometric checkpoints, and MIDAS, aimed at the development of a self-contained portable instrument for producing DNA database compatible results."*

**Detection and surveillance** – "*e.g. better communicating or integrated sensor systems, and improved imaging techniques – constitutes a very large share (40.1%) of the projects, for a total budget of € 177 million. This category counts 26 projects, such as IMSK[4] aimed at developing an integrated Mobile Security Kit combining area surveillance, checkpoint control, CBRNE detection and VIP protection for mobile and temporary deployment; TALOS[5] (Transportable Autonomous patrol for land border surveillance system) or SeaBILLA[6] (Sea Border Surveillance) aimed at defining the architecture for European sea border surveillance systems, apply advanced technological solutions and develop and demonstrate improvements in detection, tracking, identification and automated behaviour analysis of vessels. Projects include proactive and behavioural detection, such as INDECT[7] (Intelligent information system supporting observation, searching and*

3 Efficient Integrated Security Checkpoints (EFFISEC) - http://www.effisec.rdg.ac.uk/

4 http://www.imsk.eu/

5 http://talos-border.eu/

6 http://www.seabilla.eu/cms/

7 http://www.indect-project.eu/

*detection for security of citizens in urban environment). Among the main objectives of the INDECT project are for example to develop a platform for the registration and exchange of operational data, acquisition of multimedia content, intelligent processing of all information and automatic detection of threats and recognition of abnormal behavior or violence".*

**Exchange of information, risk analysis and risk anticipation "***either in a generic form or with security agencies as end-users. Work on exchange of information involves, in this context, research to make platforms more secure, as well as the enhancement of information exchange system in terms of inputs (the mixing of information from differentiated sources) and access (access via mobile devices for instance). Exchange of information, in this regard, it is also frequently associated with the capacity to anticipate risks, and to run risk analysis based on available stocks of information.*

*With 16 projects amounting to € 39.4 million this category represents about a tenth of all projects (8.9%). Projects are aimed at developing communication infrastructures and interoperability between security and government agencies (COMPOSITE, EMILI[8], SCIIMS[9]), others develop tools based on new information technologies. The INDIGO[10] project aims for example to research, develop and validate an innovative system integrating the latest advances in Virtual Reality, Simulation and Artificial Intelligence. A final type of projects is aimed at risk assessment, such as EURACOM[11] , aimed at the integration of security systems, interconnectivity and interoperability as well as risk assessment and contingency planning for interconnected transport or energy networks*."

**Critical infrastructure protection, crisis management and public safety "**including the development of methodologies and tools for crisis management, constitute another major part of FP7 funded security research.

Most of the projects detailed below focus on protective/reactive steps, but in some cases, they also involve the building of threats scenarios and risk analyses. This category of projects represents another sizeable share of FP7-ST funding: €194,3 milion, ie 43.9% of the total number of projects analyzed.

Projects are oriented in part towards the protection of critical infrastructure. PROTECTRAIL[12], for example, one of the largest projects of FP7-ST with a budget of € 21,7 million is aimed at the protection of the rail

[8] www.emili-project.eu –Coordinator Fraunhofer IAIS, Germany

[9] Strategic crime and immigration information management system – Coordinator is BAE systems

[10] http://indigo.c-s,fr – Coordinator Diginext, France

[11] http://www.eos-eu.com/EUfundedProjects/EURACOM/tabid/216/Default.aspx

It is interesting to note that the EUROCOM project is being performed by members of the European Organisation for Security (EOS). The coordinator is EOS that describes itself as the leading EU organisation for private sector providers of technology solutions and services, representing 2 million employees worldwide and more than 20 % of the global security market. EOS member participants in EURACOM include ALTRAN and CEA (France) Joint Research Centre of the EU and TNO (The Netherlands) and Thales (UK).

[12] http://www.protectrail.eu/ includes in its participants THALES, TNO, ALSTROM, BOMBARDIER and is coordinated by ANSALDO STS

system. SUPPORT[13] aims at the development of technologies for upgraded preventative and remedial security capabilities in European ports. First responder systems constitute another part of the projects, such as the E-SPONDER[14] project, aimed at the development of information, command and control systems for first responders in the case of critical infrastructure events. Similar programs are SERICOM, SECUREAU[15] CRISIS[16], COPE[17]. In this respect, many programs put the emphasis on response to CBRNE threats (SPIRIT, FRESP[18], DECOSTESSC1[19])".

**Security knowledge, mapping and harmonization "***although not very important in number and budget (€ 5,2 M, approximately 1.2%) several projects have as their explicit goal the survey of current knowledge in the security field. SECURECHAINS's[20] work is oriented at reviewing the existing security sector industry, identifying available resources and developing links between primarily SMEs (similarly to OSMOSIS)[21]. ESCorTS[22] aims at developing a roadmap for standardization in the area of cybersecurity of control and communication systems in Europe. LOGSEC[23] aims at identifying the most promising R&D areas and gaps in logistics and supply chain security in order to develop further research*".

The full EU Parliament study (Source [1]) can be viewed at:

http://www.europarl.europa.eu/activities/committees/studies/download.do?language=en&file=32851

[13] http://www.support-project.eu – Coordinator BMT (UK)

[14] http://www.e-sponder.eu - Coordinator Exodus S.A. Greece

[15] http://www.secureau.eu/ - Coordinator Universite henri Poincare - France

[16] Http://idc.mdx.ac.uk/projects/crisis - Coordinator Middlesex University, UK

[17] http://copt.vtt.fi – Coordinator VTT, Finland

[18] www.rma.ac.be/fp7-fresp - Coordinator Royal Military Academy, Belgium

[19] http://www.decotessc1.eu – Coordinator TNI. Netherlands

[20] http://www.securechains.eu/ - Coordinator INOVAMAIS, Portugal

[21] http://www.osmosisecurity.eu/ - Coordinator Ciaotech S.r.l., Italy

[22] www.escortsproject.eu/ - Coordinator CEN, Belgiu,

[23] LOGSEC is a project in which Innovative Compliance is a participant – www.logsec.org Coordinator – EFP Consulting (UK) Ltd

**[2] The impact of the EU RTD Framework Programme on the UK May 2010**

This UK study on the impact on the UK of the EU Framework Programmes for Research and Technological Development (RTD) was prepared for the International Science and Innovation Unit within the UK Department for Business, Innovation and Skills (BIS) in 2010. It is very detailed and comprehensive,

The following section has been extracted from section 8.8 entitled - Future development and opportunities for improvement included in the conclusion.

The UK findings reflect the feelings of many FP7 participants:

> *"The majority of participants appear satisfied or neutral with regard to the various aspects of FP6/7 predefined administration and reporting procedures and many stakeholders took the time to complement the Commission on its hard work, and argued that good progress had been made in several areas.*
>
> *However, survey respondents reporting a negative benefit to cost ratio for their FP participation tended to cite various problems with programme or project administration as the main cause. The areas of greatest dissatisfaction were with reporting procedures and mechanisms for payment of EC contributions, while the timeliness of various processes (particularly the application and contract negotiation procedures) were also sources of dissatisfaction for a significant minority of participants:*

- *The overall level of bureaucracy and reporting involved is considered excessive, requiring a lot of time and effort on the part of all participants and a disproportionate burden on smaller organisations and the inexperienced. Participants would like to see a pruning of these requirements within FP8, as well as simplified reporting procedures and a better balance between research reports and other financial / administrative reporting;*
- *Co-financing is fine in principle, however the level of assistance seems too low given the extent to which the Commission services look to prescribe project activity and outputs, and the administrative requirements involved. Participants would therefore like to see increased EC contributions to better reflect true costs and a better recognition of the administration and management requirements. Specific aspects of EC funding rules were also highlighted as being overly-restrictive and difficult to access; and*
- *The programme tends to move forward very slowly, and uncertainly, which creates waste and opportunity costs. Respondents complained about the timeliness of every step in the process from the call to the evaluation to contracting, to invoicing and payments. Better quality, more transparent and faster evaluation and contract negotiation processes in particular were requested by participants, as well as earlier payment of EC contributions*

*Other possible areas for development at the European-level, where there was some convergence of opinion included: (i) encouraging the Commission to continue to evolve the portfolio of FP instruments, to create more opportunities for community-led and co-financed research, as well as return to focusing FP funding more on small and medium-sized projects and instruments, rather than large projects and networking activities; (ii) a two stage proposal process, with a light-touch first stage (with lower hit-rates than at present), with a managed second, full-proposal stage (with higher pass rates), to reduce unnecessary expense and encourage additional applicants to come forward; and (iii) generally, clearer information and instructions on the various processes and requirements for FP projects, increased consistency between project officers and less churn in project officers during the course of projects".*

The full study - Impact of the EU RTD Framework Programme on the UK - can be viewed at:

http://www.bis.gov.uk/assets/biscore/science/docs/i/10-1158-impact-eu-rtd-framework