Ex-post Evaluation of PASR Activities in the field of Security

Interim Evaluation of FP7 Research Activities in the field of Space and Security

SMEs and their Participation in Security Research - Case Study

January 2011

Centre for Strategy & Evaluation Services

P O Box 159
Sevenoaks
Kent TN14 5WT
United Kingdom
www.cses.co.uk

Contents

Introduction

1

1.1 Case study methodology and structure

The methodology for the preparation of this case study has involved a combination of research approaches, including desk research of key policy and legislative documentation, research on SMEs in the security sector and a review of the annual work programmes in respect of PASR and FP7 Security. Project-specific materials have also been examined, including periodic project monitoring reports and a sample of deliverables. Material has also been drawn from the interview programme with PASR and FP7 Security beneficiaries and end-users. The case study is structured as follows:

Section 1 – provides an introduction and defines the context for the examination of SME involvement in security research

Section 2 - provides an overview of SME involvement in EU security research and compares this with the corresponding involvement of SMEs in research under the other Themes.

Section 3 – examines evidence from SME involvement in specific PASR and FP7 Security projects.

Section 4 – outlines conclusions, and possible policy developments.

The description of the context for examining SME involvement begins with brief references to the general framework for RTD support.

1.2 Seventh RTD Framework Programme 2007-2013

The Seventh Framework Programme for Research and Technological Development (FP7), implemented over the 2007-2013 period, is the European Union's main instrument for funding research activities. FP7 has a budget of 53.2 billion Euros over 7 years, representing a significant funding increase compared with previous RTD Framework Programmes.

The RTD FPs are a key tool in achieving the aims of the Europe 2020 strategy, which includes *'smart growth: developing an economy based on knowledge and innovation'* as a key priority.

The objectives of FP7 have been grouped into four categories: *Cooperation, Ideas, People and Capacities*. FP7 Security Research is a specific programme falling within the Cooperation objective, which fosters collaborative research across Europe and other partner countries and as such, is the core of FP7.

The Decision establishing FP7[1] set a target for the funding for SMEs under the Cooperation Programme. The aim is to have at least 15% of the funding of the programme to go to SMEs.

1.3 EU Security Research in FP7

Following the implementation of the PASR Preparatory Action on Security Research in 2004-2006, an EU Security Research programme was included for the first time in the RTD Framework Programme in FP7, with a budget of EUR1.4 billion from the European Commission.

The overriding objectives of FP7 EU Security Research are to: make Europe more secure for its citizens, strengthen industrial competitiveness; promote research excellence and state-of-the-art; prevent the fragmentation of research efforts and strengthen critical mass in particular areas of security research. The specific objectives include: stimulating the development of a European market for new and emerging security products and systems; ensuring the security of EU citizens from new

[1] "Decision no 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for Research, Technological Development and Demonstration activities (2007-2013)" – Annex1, I. Cooperation

Introduction 1

and emerging threats; delivering mission-oriented research results to reduce security gaps; ensuring the optimal use of available and nascent technologies and stimulating cooperation between providers and users of civil security solutions.

There are four security 'missions' in FP7 Security Research:

- Security of citizens;
- Security of infrastructure and utilities;
- Intelligent surveillance and border security; and
- Restoring security and safety in case of crisis.

There are also three cross-cutting missions. These have been defined as:

- Security systems integration, interconnectivity and interoperability
- Security and society Security
- Research coordination and structuring

1.4 Support for SMEs under PASR and FP7

The encouragement of SME participation in European research has been a feature of successive Framework Programmes and the inclusion of STREPS (Specific Targeted Research Projects) and dedicated SME programmes in FP6 was motivated by the need to facilitate greater participation by SMEs in research at a European level. However, FP7 stands out for the concerted effort that has been made to encourage the active engagement of SMEs in research activity.

SMEs are particularly important for the European economy. According to the latest figures available from Eurostat (2006), independent firms with less than 250 employees employed two thirds of the workforce (67.4 %) and generated 57.7 % of total value added[2]. This contrasts with the United States where in the same year only around 50% of employment was in firms employing less than 500 people[3]. SMEs are regarded as being a dynamic force in the economy.

Analysing the growth in value added of the non-financial business economy of the EU between 2004 and 2006, a recent Eurostat study[4] showed that SMEs contributed two thirds of the overall increase and that in each of the Member States separately, except the Czech Republic and Sweden, SMEs contributed more than large enterprises to the growth of value added. In terms employment, the EU non-financial business economy grew by 4.2% over the same period. Of this, 3.4% was due to SMEs, whereas only 0.8% was attributable to large enterprises. This means that SMEs contributed more than four times as much as large firms to employment growth. Overall, the study concludes 'SMEs were the main drivers of economic growth in the EU between 2004 and 2006.

SMEs are also seen to be a major source of innovation in a modern economy, in terms of both products and processes, including business processes. They have the flexibility to react quickly to emerging market opportunities and to pursue new ideas. They can often focus on a particular development and see it through to a conclusion, in a way that larger firms cannot afford to do, since they need to take a broader view of the range of potential developments in their market.

[2] Eurostat, European business — Facts and figures 2009
[3] Small Business Administration, The Small Business Economy 2009; A Report to the President
[4] Eurostat, Statistics in Focus 71/2009 'SMEs were the main drivers of economic growth between 2004 and 2006' Sept 09

Introduction 1

Often, however, SMEs can have particular difficulties in pursuing innovative ideas. They can find it difficult to finance developments, especially at an early stage and face structural problems in developing their businesses because of market failures arising from information asymmetries and other structural features that make lenders reluctant to fund developments that are objectively viable.

With this background, a particular effort was made in FP7 to promote SME participation. A review of the entire funding cycle led to a simplification of rules and procedures and improvements in various elements of the funding regime. These changes included the procedures, the administrative and financial rules and the readability and user-friendliness of documents. In particular, funding problems have been addressed by increasing the funding rate for research and development activities by SMEs to 75%, as opposed to the 50% applicable in FP6 and earlier FPs. Furthermore, the specific problem posed by the joint liability previously assumed by SMEs in projects has been addressed by replacing the principle of 'collective financial responsibility' by a guarantee fund, which covers the financial risks of defaulting project participants.

Other aspects of FP7 actively encourage the participation of SMEs, especially in projects under the Themes of the Cooperation Programme. The Cooperation Programme is the heart of FP7 and represents two thirds of the overall budget. It is intended to facilitate collaborative research across Europe through transnational consortiums. Research is carried out under ten Themes, each of which has its own dedicated SME strategy. A target was established of at least 15% of the available funding going to SMEs under the Cooperation Programme.

For SMEs with innovative ideas and ambitions, but limited research capability, the scope for outsourcing research has been increased and the possibility of addressing problems shared by groups of SMEs improved by two special measures :

- Research for SMEs: supports small groups of innovative SMEs in solving common or complementary technological problems.
- Research for SME associations: supports SME associations and SME groupings in developing solutions to problems common to large numbers of SMEs in specific sectors.

SME Techweb[5] provides online assistance and orientation for SMEs interested in research possibilities.

1.5 SMEs in the Security Sector

The Study on the Competitiveness of the EU Security Industry[6] pointed out that the security industry is still in a process of formation and that, on the evidence of the merger and acquisition (M&A) activity observed in the recent past, there is still some way to go before a clear and relatively stable shape of its industrial structure is established. In terms of characterising this emerging industry, there are problems arising from a lack of appropriate statistical data on the industry and markets, and even a continuing question on the composition and extent of the industry. Nonetheless, it is possible to provide a general characterisation of the industry and the study establishes a useful context for understanding the role of SMEs. From a supply-side perspective, three main segments of the security industry are identified:

- **Traditional security industry**: based around the supply of general security applications (e.g. physical access control, intrusion and fire detection, CCTV/video surveillance, etc.)

[5] http://ec.europa.eu/research/sme-techweb/index_en.cfm
[6] Ecorys et al, Study on the Competitiveness of the EU security industry, Nov 2009

corresponding primarily to protection against 'traditional' security threats, such as 'ordinary' criminal activity, fire protection, etc..

- **Security-orientated defence industry:** based on either the application of defence related technologies in the area of security or where defence-orientated companies have acquired and/or adapted 'civilian' technologies in order to address capability requirements within security markets. This corresponds primarily to protection against 'new' security threats, such as terrorism, organised crime, cyber crime, etc. and also including protection against and response to major catastrophic events.
- **New entrants:** for which a distinction may be made between:
  - Suppliers from other civilian industry sectors whose security products tend to be based on the extension of existing (civilian) technologies to security applications;
  - Start-up companies based on the development and commercialisation of new and innovative security technologies.

The general structure of the industry is strongly influenced by the characteristics of demand for security products and services. This in turn is influenced by the overall regulatory environment which contributes to creating an environment in which there can be very high barriers to market entry, particularly at the 'high-end' of the 'new' security market. These barriers relate notably to:

- High investment costs associated with technology development and, also, with the transition from technology development to placing a product on the market;
- High costs associated with securing markets (e.g. lobbying, marketing, commercial diplomacy).

The fact that it is mainly public authorities or public bodies, often at a national level, that are the purchasers of the outputs of the industry and that these will operate through a public procurement regime adds to the costs of securing markets, especially when there is a need to 'educate' clients on technological possibilities and choices.

A consequence of the high barriers to market entry, the study concludes is that SMEs typically play only a limited role in the security market and are often restricted to highly specialised 'niche' segments. Where SMEs are able to successfully develop innovative technologies it is usually the case that they tend to license this technology to larger players (e.g. dedicated equipment integrators) rather than try to enter markets independently; alternatively they may simply be acquired by such players.

Furthermore, there is a trend towards larger and more integrated security projects and contracts. Such developments are likely to strengthen the position of the major systems integrators whose strengths lie in ensuring the effective integration of different security systems and customising security systems to meet client requirements. A possible consequence in the longer run could be even more consolidation of the dedicated security equipment and sub-systems providers.

The study notes that there are several EU companies that are among the global leaders in their fields. However, the depth of the industrial base that lies beyond these leading companies is less evident. Again the problem appears to be procurement behaviour and procedures, which favour larger established suppliers or, from an international perspective, local suppliers. Even in the market segments where there are SMEs present these barriers effectively exclude the development of persistent supply chain relationships providing the required depth in the industrial base.

This relatively pessimistic perspective for the prospects of SMEs in the security industry in the recent 2009 *Study on the Competitiveness of the EU Security Industry* forms an important background to the

Introduction

1

subsequent examination of the involvement of SMEs in PASR and FP7 Security projects. It does however, contrast slightly with the more optimistic perspective offered by the ESRIF Working Group on Innovation.

The final report of the European Security Research and Innovation Forum (ESRIF) on a European Security Research and Innovation Agenda, published in December 2009[7], contained the conclusions of the Forum Working Group on Innovation Issues. ESRIF itself was made up of representatives of all the main interests in the security sector across Europe from both the public and private sectors.

With a view to making Europe a more secure place and to creating the market conditions and related incentives, mechanisms and instruments for a competitive European industry, ESRIF proposed a strategic approach to the development of innovation in the sector, which includes an important place for SMEs.

First of all, ESRIF suggests that the European Union take up security as a lead market, with the aim of establishing competitive leadership in selected elements of the security market by 2015. This would involve stipulating an innovative research programme, together with the creation of jobs and the provision of new business opportunities.

The elements required to create an innovation-friendly security market are said to include:

- Investment planning and setting of targets and objectives based on a demand driven and harmonised approach
- Good governance through EU wide harmonised regulation
- An ambitious use of standards
- Structuring the market through harmonised public procurement
- Fostering a culture which celebrates innovation

ESRIF then points to the innovative capabilities of SMEs and argues that the characteristics of security as an extremely broad domain requiring input from most industrial sectors and expert disciplines provides an interesting opportunity. There is an 'untapped potential' in that many SMEs that would normally not operate in the security arena have the relevant skills for security applications. Opportunities exist, particularly in high-tech niche security markets

This action is also expected to improve the competitiveness of large European enterprises by broadening and deepening the pool of potential partner SMEs. ESRIF recommends the launch of a structured initiative to identify exploitable demand by public and private security end-users and to entice non-security SMEs into the niche markets and, to a lesser degree, to encourage existing security SMEs to diversify.

Research support is part of this picture and ESRIF recommends that future EU research and innovation initiatives should be designed so as to alleviate SME problems and promote SME participation. It proposes a 25% target for SME participation by 2011.

[7] http://www.esrif.eu/

SME Involvement in Security Research

2

In this section, an overview of SME involvement in security research is provided and comparisons made with the corresponding involvement of SMEs in research under the other Themes.

2.1 SME participation in PASR

In line with the general approach under FP6, PASR encouraged SME participation in security research. Projects such as WATERSAFE, which sought to apply nanotechnologies in sensing and detoxification of contamination in networked drinking water systems, brought together specialist SMEs with research groups and a major water company.

However, PASR was also notable for the more strategic projects that explicitly paved the way for greater participation by SMEs in FP7 Security following on from the preparatory actions.

SeNTRE, the Security Network for Technological Research in Europe, which started in December 2004 established a network of users and technology experts at national and European levels to support the European Security Research Advisory Board (ESRAB). Building on this framework, STACCATO (Stakeholders Platform for Supply chain Mapping, Market Condition Analysis and Technologies Opportunities) aimed to map competences across the EU-27, particularly highlighting the capacities of SMEs, with a view to promoting the integration of their innovative potential into existing supply chains and to assisting the coordination of the European Security and Technological Industrial Base (STIB).

Even more specifically dedicated to encouraging the involvement of SMEs in EU security research projects was Secure SME. Though funded through PASR, this project began in January 2007 and was focused on SME involvement in the early stages of FP7. It operated for two years and succeeded in involving 42 SMEs in proposals under the first call.

2.2 SME participation in FP7 Security

The position of SME involvement in FP7 is monitored on a systematic basis by the SME Unit in DG Research and regular Progress Reports are issued. The latest report available is the Fifth Progress Report on SMEs' participation in the 7th R&D Framework Programme that reports analysis conducted in May 2010. Data are provided on Grant Agreements in FP7 signed before the 1st of April 2010.

The position in respect of financial absorption (commitment levels to date against total budget) both overall, and in respect of SMEs in FP7 Security Research, is set out below.

Table 2.1: Financial absorption against targets in FP7 Research.

Indicator	*Total Research*	*Security*
Total foreseen budget	€ 32,265,000,000	€ 1,350,000,000
% of budget used per 31.03.10	27.3%	14.9%
15% of the budget (minimum target for SMEs)	€ 4,840,000	€ 202,500,000
Budget used for SMEs as at 31.03.10	€ 1,236,000,000	€ 40,600,000
% used for SMEs per 31.03.10	14.0%	20.2%
Average EU Contribution per participant	€ 312,117	€ 279,166
Average EU Contribution for non-SME participations	€ 318,097	€ 274,166
Average EU Contribution per participant (SMEs)	€ 280,757	€ 300,906

SME Involvement in Security Research

2

Extrapolation of potential SMEs to be reached through FP7 SEC	16,450	904
SME participation in Signed Grant Agreements (as at 31.03.10)	4,497	135
% SME participants	16.0%	18.7%
Extrapolation SMEs reached with 15% of budget	4,818	536

Source: 5th Progress Report on SME Participation in the 7th R&D Framework, DG Research

According to the previous 4th Progress Report on SME participation, the value of grants to SMEs under the Security Theme was 19.2%, against a target of 15% across FP7 overall. The 5th Progress Report on SME participation shows that in grants agreed before 1st April 2010, this had increased to 20.2%. This contrasts quite strongly with the average allocation to SMEs of 14.0% across all the Co-operation projects.

It is important to be clear about the nature of the enterprises that are benefitting from FP7 support. There is a question of whether or not SME beneficiaries are really SMEs in a way that would be commonly understood. According to the definition of SMEs used by the European Commission,[8] an SME has to be an individual or organisation engaged in economic activity, employing less than 250 persons, having an annual turnover not exceeding € 50 million or a balance sheet total not exceeding € 43 million and also be 'autonomous'. The last condition can be relatively complex to determine and indeed it is possible in certain restricted circumstances for an enterprise to be an SME even if it is not autonomous according to the technical definition, but essentially the idea is that small commercial organisations cannot be regarded as an SME if they are owned by larger organisations. The limit on the proportion of ownership allowed ranges from 25% to 50 %, depending on the nature of the owning organisation.

During the course of the evaluation, a check was made of the main SME beneficiaries of the first two FP7 Security calls, plus the joint SEC-ICT call (launched in 2007). This was done by examining the circumstances of the 25 SMEs with the highest budget allocations, as far as this is possible from publicly available information (mainly web sites etc). The examination showed that one of the beneficiaries was a spin-off from a university and another two were organisations with some public participation, but in each of these cases, it was not possible to determine the extent of external ownership and in other respects they appeared to operate pretty much like 'normal' SMEs. There was therefore no reason to question the status of any of the other beneficiaries. Our conclusion was that the screening undertaken by the Commission (and now by the REA) meant that all SMEs in the reported data appeared to be 'real' SMEs.

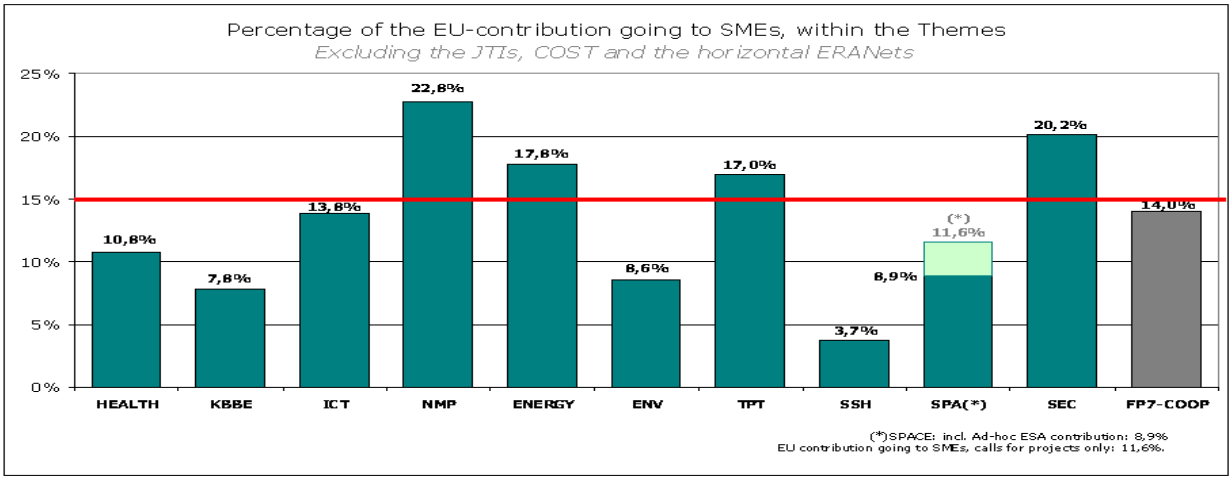
Some care must also be taken with extrapolations from the available data. At 31st March 2010, FP7 Security had used only 14.9% of its total budget, as compared with 27.3% for the Framework Programme as a whole, since the initial calls for proposals focused on supporting the basic building blocks of FP7 through small capability projects and medium-sized integration projects. In the second half of FP7, there will be a switch towards larger-scale demonstration projects which are more capital-intensive and which may therefore have less of an SME involvement. Nonetheless a good start has clearly been made.

[8] Commission Recommendation (2003/361/EC) concerning the definition of micro, small and medium-sized enterprises; 6 May 2003

SME Involvement in Security Research

2

Figure 2.1: The share of the EU Contribution going to SMEs, for each Theme within the Cooperation Programme



Source: 5th Progress Report on SME Participation in the 7th R&D Framework, DG Research, 30.04.10.

The themes referred to are as follows :

HEALTH	Health Research
KBBE	Food, agriculture, fisheries and biotechnology
ICT	Information and communication technologies
NMP	Nanosciences, nanotechnologies, materials and production technologies
ENERGY	Energy Research
ENV	Environment Research (including climate change)
TPT	Transport Research (including aeronautics)
SSH	Socio-economic Sciences and Humanities Research
SPA	Space Research
SEC	Security Research

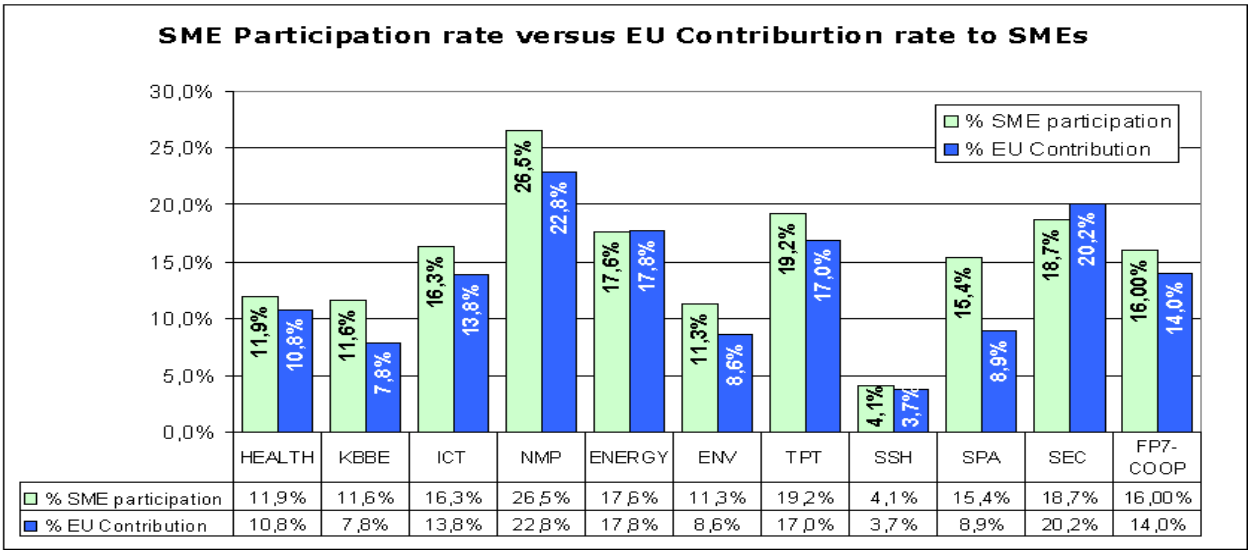
Figure 2 illustrates the strong performance of Security Research compared with most other Themes supported within the FP7 Cooperation Programme. The proportion of funding going to SMEs varies quite considerably across the different thematic areas - from 3.7% up to 22.9%, with a mean value of 14.0%. Although statistically, given the distribution, the SME share of Security research funding is not significantly different from the mean value, this area is clearly among those that are better performing in relation to the objective of increasing SME take-up of funds. At the cut-off date (31.03.10), Security research was second only to 'nanosciences, nanotechnologies, materials and production technologies' and was among only three of the theme areas that exceeded the SME funding target. This relative 'success' for security research needs an explanation, but it turns out that Security Co-operation projects have other characteristics that make them stand out.

The absolute number of SMEs participating in approved Security projects as a proportion of the total number of participants is 18.7%. This compares with an average of 16.0% for all themes and makes Security the third highest theme, after Nanosciences, nanotechnologies, materials and production technologies again (26.5%), but also after Transport Research (19.2%).

SME Involvement in Security Research

2

Figure 2.2: SME Participation Rate and Proof Funding Provided by the EU across FP7 Co-operation Themes



	HEALTH	KBBE	ICT	NMP	ENERGY	ENV	TPT	SSH	SPA	SEC	FP7-COOP
% SME participation	11,9%	11,6%	16,3%	26,5%	17,6%	11,3%	19,2%	4,1%	15,4%	18,7%	16,00%
% EU Contribution	10,8%	7,8%	13,8%	22,8%	17,8%	8,6%	17,0%	3,7%	8,9%	20,2%	14,0%

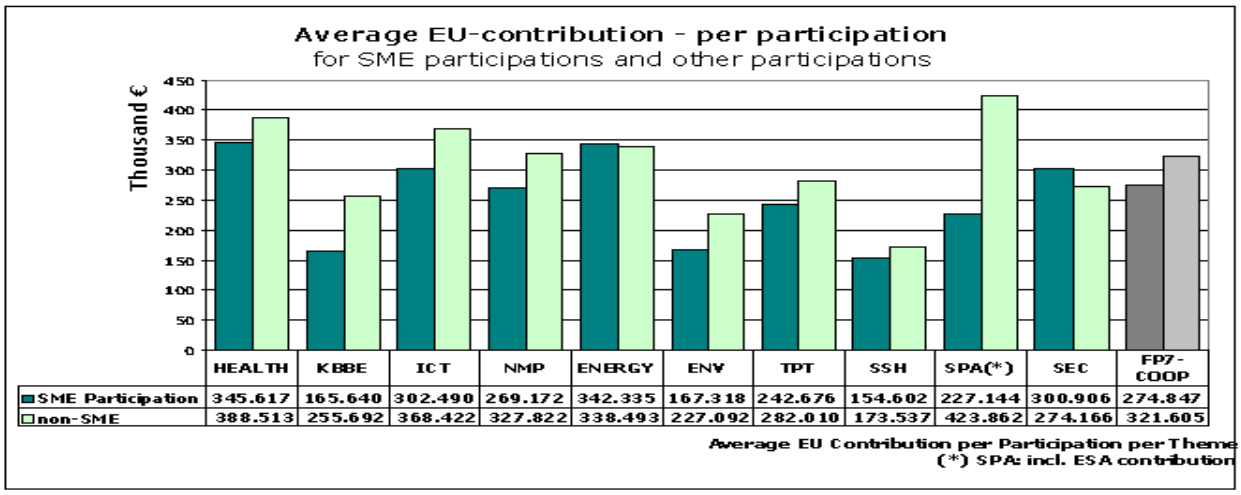
Source: 5th Progress Report on SME Participation in the 7th R&D Framework, DG Research, 30.04.10.

In contrast, however, to the Nanosciences theme which has achieved a relatively high participation by SMEs, there have been no calls for proposals in the Security area that have been specifically dedicated to SMEs.

Again, from the point of view of SME involvement, some clarification is needed. Some SMEs participate in more than one project, so the total number of SMEs involved in Security research is slightly lower. Our estimate[9] is that the figure should be reduced by around 5%.

Security is the only theme, where the SME share of funding clearly exceeds the SME share in the number of participants. SMEs in the Security area typically request a higher funding allocation than the average for the Theme (€300,906 versus €274,166 for non-SMEs). This contrasts with the situation across the other themes in the Cooperation Programme, where, with the exception of Energy projects, SMEs request a smaller contribution than their larger counterparts. The Average EU Contribution per participant is €314,117 as compared with €274,847 for SMEs.

Figure 2.3: Average EU Contribution per participation for each theme within the Cooperation Programme



	HEALTH	KBBE	ICT	NMP	ENERGY	ENV	TPT	SSH	SPA(*)	SEC	FP7-COOP
SME Participation	345.617	165.640	302.490	269.172	342.335	167.318	242.676	154.602	227.144	300.906	274.847
non-SME	388.513	255.692	368.422	327.822	338.493	227.092	282.010	173.537	423.862	274.166	321.605

Average EU Contribution per Participation per Theme
(*) SPA: incl. ESA contribution

[9] Based on internal management documents

SME Involvement in Security Research

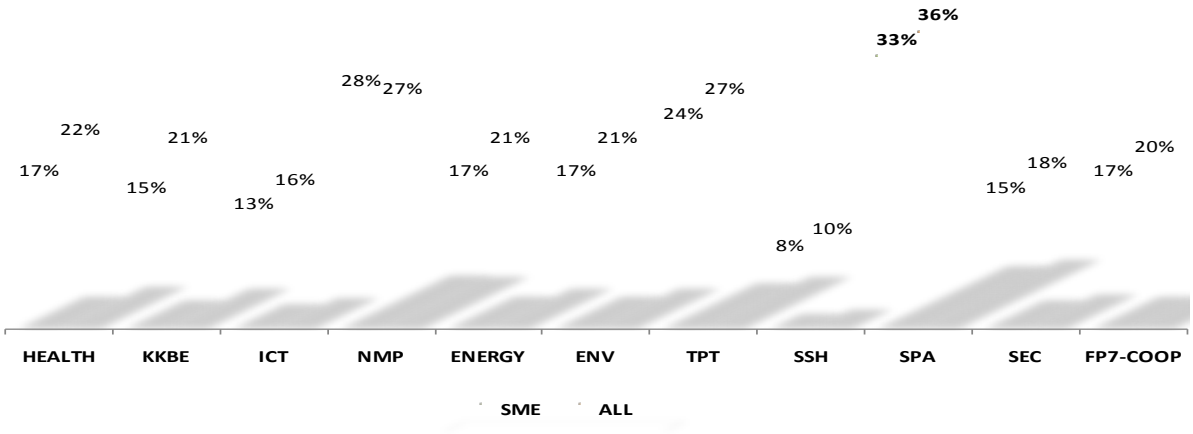
2

Source: 5th Progress Report on SME Participation in the 7th R&D Framework, DG Research, 30.04.10.

At €300,906, the absolute amount of funding requested by Security SMEs on average falls below that in health, energy, and ICT. It does however, exceed the average amount granted across all Themes by some 9.5 %.

The degree of competition for these funds is indicated by the success rates for SME applications. The table below indicates that competition by Security SMEs for funding is relatively fierce.

Figure 2.4: The Success Rate of SME Applicants Relative to other Applicants

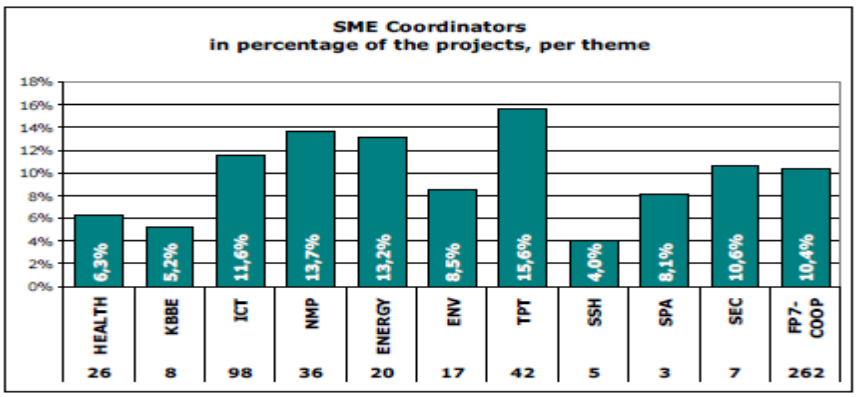


Source: 5th Progress Report on SME Participation in the 7th R&D Framework, DG Research, 30.04.10.

15% of applications from SMEs were successful in Security, compared with 18% of applications overall in Security and 20% in all FP7 themes.

SME participation can either be as a result of SMEs leading proposals or of SMEs acting as one of the partners in a proposal made by a larger organisation. The Fifth Progress Report on SME participation shows that, out of 66 signed grant agreements under FP7 Security at 31st March 2010, 52 (78.8%) had at least one SME participating. This contrasts with an average of 62.1% for FP7 Co-operation agreements as a whole. There is thus a slightly higher proportion of SMEs participating than in other FP7 Co-operation projects. The average number of participants in signed Security agreements is currently 8.9, of which 2 are SMEs. As the data below shows, however, only 7 projects were led by SMEs in the Security area (10.9% of the total number of Security projects).

Figure 2.5: Number of SME Coordinators in signed Grant Agreements



Source: 5th Progress Report on SME Participation in the 7th R&D Framework, DG Research, 30.04.10.

SME Involvement in Security Research 2

It should be appreciated that the fact that an SME is co-ordinating a project does not necessarily mean that the project's research programme is being driven by an SME. Sometimes the co-ordinators of projects have been called in precisely to provide the management of the project and may be small consulting firms or other SMEs specialising in project co-ordination. Conversely, it is possible that some SMEs are the drivers of projects without actually being the co-ordinators. Nonetheless, it appears overall that the cases where SMEs are in this leading position are relatively rare.

Finally, in terms of the data on SME participation, it should be noted that the Fifth Progress Report also shows the country distribution of participants in agreed Security projects. France, the UK, Italy, Germany and Spain all had a relatively significant presence. Among these, SMEs accounted for 30% of UK participants (and 30.5% of the budget), 23% of Spanish participants (29.6% of the budget) and 18% of German participants (and 20.6% of the budget) whereas they represented 15% of French participants (13.8% of the budget) and 13% of Italian participants (and 16.2% of the budget). Other countries where there has been a relatively large SME presence include Denmark, Estonia, Ireland and Slovenia, though the absolute numbers of participants in these countries are considerably less than in the case of the 5 larger countries.

2.3 SME Involvement in FP7 Security - key issues

The particular characteristics of SME participation in FP7 raise some interesting questions :

- Why has Security been relatively successful in encouraging SME participation ?
- How should this be seen in the context of a fragmented security market and relatively high barriers to entry ?
- Why is there relatively fierce competition for Security project funding under FP7 ?
- Why do SMEs participating in FP7 request relatively high contributions ?
- What is the nature of SME involvement in projects ?

One hypothesis that might bring a response to all these questions is that SMEs see participation in EU funding programmes as a way of entering the market and coping with the high entry barriers. The high barriers arise because of the cost of developing new technology to cope with new threats and also because of the procurement regime that governs much of the purchasing of the sector's outputs. Participation in Security research projects can assist with both of these considerations. Market fragmentation underlines the need for co-ordinating mechanisms that can bring together teams with a certain depth of experience in order to address the developing needs, again especially in a context where procurement procedures dominate the route to market. Research participation is a process that can provide this element of co-ordination.

This hypothesis is consistent with a relatively high participation rate and indeed the relatively tough competition to obtain funding. It also possibly explains why the funding requested by SMEs is relatively high, since the technical barriers to entry could be perceived to need high expenditure in order to surmount them. However, it is felt that there should not be too much emphasis on the funding levels requested by Security SMEs. The absolute amounts are less than those requested in areas such as energy, health and ICT, and they exceed the average for all FP7 by less than 10%.

On the other hand the hypothesis says relatively little about the form of SME participation, since using participation to drive development of key technology or alternatively using it to establish contacts and market credibility are both consistent with facing difficulty in entering the market. It is

SME Involvement in Security Research 2

nonetheless interesting to know something of the ways that SMEs are behaving in this regard. Evidence from the survey of FP Security participants throws some light on this.

2.4 Responses to the participants' survey

Of those responding to the online survey of beneficiaries carried out by CSES, 19 out of 72 were SMEs. Other respondents were involved in projects that had SME participation. Of those who identified themselves as SMEs, the respondents split roughly equally between 'micro', 'small' and 'medium' enterprises:

Table 2.2: If you are an SME, please indicate whether your firm falls into the micro, small or medium size thresholds?

Options	№	%
Micro (fewer than 10 employees)	6	31.6
Small (10-49 employees)	7	36.8
Medium (50-249 employees)	6	31.6
Total	19	100.0

SMEs have a variety of roles in the consortiums of which they are a member :

Table 2.3: Which aspects of project implementation has your organisation (and any other SMEs taking part in the consortium) been involved in?

Options	№	%
Structuring the consortium at the bid stage	11	57.9
The preparation of the project application	14	73.7
Project management	8	42.1
Delivery of individual Work Packages	14	73.7
Conducting R&D activities	15	78.9
Carrying out knowledge-related activities	14	73.7
Dissemination activities	10	52.6
End user engagement	9	47.4

Clearly some SMEs are central to structuring the project, while others have a more peripheral role. It is known from interviews, for instance, that some SMEs were specifically engaged to handle the dissemination aspects of the project or to advise on project management processes. It appears from the table above that around 20% of SME participants may be involved in non-R&D activities.

On the other hand, the SME respondents at least thought that in many cases they had been involved in more cost-intensive Work Packages than other partners.

Table 2.4: How far do you agree with the following statement: 'SMEs have been involved in delivering more cost-intensive Work Packages than other partners'?

Options	№	%
Agree strongly	6	31.6
Agree to some extent	7	36.8
Disagree	5	26.3
Disagree strongly	1	5.3
Total	19	100.0

SME Involvement in Security Research

2

In terms of the quality of their contribution, the involvement of SMEs appears to have generally been viewed positively by other partners in the consortium, with no negative attitudes being reported.

Table 2.5: How positively was the fact that your organisation is an SME viewed by other partners in the consortium during the initial partner search and consortium formulation stage?

Options	№	%
Very positively	4	21.1
Quite positively	9	47.4
Neutral	6	31.6
Negatively	0	0.0
Total	19	100.0

This association seems to have been welcomed by other participants. When all participants were asked about 'soft' research outcomes linked to their projects just over half thought that 'Improved networking and coordination between security research actors' was significant and over a third (39%) specifically referred to 'Strengthened cooperation between SMEs and large firms' as a positive outcome. It was also possible to follow up some of the indications in the survey during the course of the interviews with specific SMEs and some of these are presented in the following section.

Overall, it appears that, SMEs of all sizes are playing a number of different roles within FP7 Security projects, and that whatever contribution they are making, it seems to be appreciated.

PROJECT ASSESSMENT 3

3.1 Project assessment for PASR

A number of Calls for Proposals under PASR and FP7 Security included scope for SME participation in line with the general orientation adopted by the relevant Framework Programmes.

As has already been observed, a significant feature of PASR projects was the inclusion of projects designed, at least in part, to promote SME participation in Security research.

At an early stage, SeNTRE, the Security Network for Technological Research in Europe aimed to develop :

- A strategic security research plan containing a list of prioritised short, medium and long term actions,
- A database of missions and technologies,
- An organized platform of users and technology experts for future consultation
- A methodology to organise and analyse security needs at the operational level.

Building on this framework, STACCATO (Stakeholders Platform for Supply chain Mapping, Market Condition Analysis and Technologies Opportunities) aimed to map competences across the EU-27, particularly highlighting the capacities of SMEs, with a view to promoting the integration of their innovative potential into existing supply chains and to assisting the coordination of the European Security and Technological Industrial Base (STIB). A database was created where enterprises could provide details of their activities and capabilities for use by companies higher up the supply chain. This database was reasonably successful in attracting SMEs (around 130), as well as larger companies, research institutes, universities and government. However, we understand that it is no longer accessible.

SecureSME, however, was a project specifically dedicated to promoting SME involvement in the early stages of FP7 and succeeded in involving 42 SMEs in proposals under the first call.

Project(s):	**SecureSME : Supporting Security Field SMEs in Preparing RTD Projects**
Project timeframe:	15th Jan 2007 – 14th Jan 2009
Lead Partner:	Inovamais – Serviços de Consultadoria em Inovação Tecnológica S.A.
SME involvement	Project focused on promoting SME involvement in Security research
Activity area	Project aimed to identify research challenges in the security domain that are appropriate for SMEs to address and to assist SMEs in developing proposals
Total Cost:	€ 330,289
EU Contribution:	€ 247,545
Start Date:	15/01/2007
Project type*:	CSA

Project Description:

The main goal of SecureSME was to promote the integration of SMEs operating in the area of security into European science and technology supply chains, and in particular to contribute to an increased participation of SMEs in FP7 Security research activities.

SecureSME aimed to help reinforce the competitiveness of industry and research in the security field and to build effective partnerships among all the security technology actors (industry, research organisations, users etc). The consortium consisted of 6 partners, which acted as multipliers and/or experts on security issues and European research projects.

Among the activities that have been carried out include: i) awareness building and workshops or seminars ii) Research and innovation strategy assessment iii) Building R&D competences and iv) Preparation for future activities.

Outcomes:

SecureSME analysed technological- and market trends and the existing capabilities of security SMEs, focusing on those countries that have had particular security issues. The project identified key areas of competitiveness in the countries concerned and associated innovative technologies. The project then directly supported SMEs in the security sector, helping them to develop in-house competences, making use of national or regional programmes and incentives and subsequently helping them to develop proposals under FP7, including assisting them to join appropriate consortia. 42 SMEs assisted by SecureSME were involved in proposals.

SecureSME also provided a technology trend analysis, with an identification of emerging technological bottlenecks faced by the European industrial partners.

SME Involvement:

The SecureSME project was specifically focused on the practical issues of involving SMEs in European Security research.

SecureSME and other facilitating projects could well have been useful in bringing in more SMEs to security research in the early stages and these are likely to have been enterprises that would not otherwise have tried to participate. However, given that 42 SMEs were assisted out of around 900 that have been so far been involved in proposals, suggests that the overall impact was relatively small.

3.2 Project assessment for FP7 Security

Among FP7 Security projects, as has been observed, SMEs play a number of different roles, but there is a strong sense in almost all projects examined that FP7 funding is assisting them to develop their position in a difficult market. Among these, there are some interesting cases where an SME has taken a lead in developing the original proposal, allowing it to have its own clear technical and commercial objectives and also to co-ordinate the other partners in the pursuit of these objectives.

If SMEs are able to initiate a project and assume the position of lead partner, there are a number of advantages. Since it is their own agenda that they are pursuing rather than one determined by others, they are able to make developments that are central to an active business strategy. As the representative of the project, they can achieve a higher profile in the market and be the natural point of contact for other market players. At the same time, there are the usual advantages of participation. It can help to resolve funding problems in an area of the security sector in which entry costs are relatively high, help establish niche positions in the market and may establish a viable route to market. The advantage from a policy perspective in having an SME in this position is that the small firm's innovative potential is given full rein.

Project(s):	**iDetecT4ALL : Novel Intruder Detection & Authentication Optical Sensing Technology**
Project timeframe:	1st July 2008 – 31st December 2010
Lead Partner:	Instro Precision Ltd
SME involvement	Lead partner was an SME at project launch
Activity area	Protection of critical infrastructure
Total Cost:	€ 3,236,675
EU Contribution:	€ 2,298,014

PROJECT ASSESSMENT 3

Start Date:	01/07/2008
Project type*:	Integrated project

Project Description:

The iDetecT4ALL project is developing a novel photonic sensor technology based on ultra low cost electro-optical components and using a single sensor for the detection and authentication of objects. This technology will detect the presence of objects (human beings, vehicles, goods), inside or in the areas around restricted critical infrastructures. Authorised objects will be identified and there will be an alert if any object is found to be unauthorised within the protected zone. The new technology will dramatically improve the performance and reliability of the security system in Critical Infrastructures.

An innovative approach has been adopted based on recently invented and very advanced digital signal processing (DSP) techniques that conducts distance measurement using continuous modulated light signals that are invisible to humans. It requires far less optical power than existing laser scanning technologies. The result will be increased performance with reduced cost for reliable intruder detection.

Outcomes:

Among the main projects outcomes are:

- Remote detection of static and moving objects within a predetermined field of view.
- Remote scanning and authentication of optical ID tags (OPID).
- Threat identification, tracking and observation.
- 24 hour operational capability in all lighting and weather conditions.
- Minimal power consumption and therefore compatible and easily installable in existing security installations using existing infrastructure.
- Maintenance free design.

SME Involvement

The project was initiated and is led by Instro Precision Ltd, an SME at the time of the agreement. The majority shareholding at that time was held by a private individual. Its purchase by a large corporation technically means that the lead partner is no longer an SME. The case is nonetheless interesting.

Instro Precision Ltd has had an established position as a supplier of military sensor equipment to large defence contractors and defence procurers. The company saw the possibility of using similar technology for new applications, especially in the security area. It sought to raise funds for the development from venture capital sources, but encountered difficulties because the technology was unproven in these applications and the amount of funds required fell into a funding gap – too large to be sourced internally or from loans and too small for venture capitalists to consider. An initial development project was funded at a national level, but funding on a sufficient scale was not available for the necessary further development from this source. FP7 funding is allowing the company to take the development of the technology through a proof of concept to the point where it will be in a position to raise investment funds for production and marketing.

This project represents an almost classic case of a small company identifying a market opportunity and using FP funding to bring in contributions from partners and develop the idea to a point where it begins to be commercially viable. Results are expected in 18 months time, after the end of the project. Achieving a sufficiently low price for the equipment will be critical for its commercial success. The company's previous experience with procurement procedures makes it confident of finding a market, if an acceptable price level can be achieved. The advice of a consulting company in preparing the proposal was seen as critical in getting the project off the ground.

Lessons from experience

It is interesting that this firm felt that it needed professional assistance to make a proposal as a project leader.

PROJECT ASSESSMENT 3

SME management is continuously being distracted from longer-term objectives by the pressing needs of everyday problems and issues. Greater flexibility would have been welcomed in working on project deliverables, reallocating work within the project and outsourcing some of it, when this was feasible.

It is also difficult for SMEs to find the time to network with parallel projects.

Implications for SMEs in the Security sector

The difficulties and rewards of being a project leader in the sense of determining the course of development are illustrated by this case. Being a project leader allows a concentration on core research and development needs, but it is difficult for an SME to adopt this role.

The project does show, however, how FP7 has allowed an SME to overcome some of the high barriers in the Security sector, fund critical development and potentially establish a niche in the security market, with the possibility of other applications in completely different fields.

The **iDetecT4ALL project** shows that one of the strategies for SMEs in the Security Market, especially when they already have an established position, perhaps in a parallel market, is to make use of the assistance available through FP SEC to create a leading position in the supply of a particular range of products, or rather to create the technical and commercial conditions for establishing such a position. Research funding at the new higher level under FP7 is clearly having the effect of making this approach a more viable option and is seen by SMEs interviewed as a way of overcoming the high technical barriers to entry10. Other SMEs, however, have a somewhat different approach.

SMEs that do not initiate a project or take a leading role in consortia are in a somewhat different position from the previous category and roles within a consortium can differ quite substantially even among those that have a supporting function. SMEs may be brought in to provide specific expertise and this may be technical, but, as we saw from the survey, in a number of cases it may also be in the form of contributions to project management or dissemination and publicity. However, a common theme is that SMEs find participation in projects to be useful in networking, especially beyond national frontiers, and this provides them with a potentially significant route to market.

Project(s):	**ADABTS : Automatic Detection of Abnormal Behaviour and Threats in crowded Spaces**
Project timeframe:	1st Aug 2009 – 31st July 2013
Lead Partner:	Totalforsvarets Forskningsinstitut (FOI)
SME involvement	Lead partner was an SME at project launch
Activity area	Protection of critical infrastructure
Total Cost and EU Contribution::	€ 4,478,990 and € 3,229,034
Start Date:	01/08/2009
Project type*:	***Capability project, Integrated project, Demonstration project**

Project Description:

ADABTS aims to facilitate the protection of EU citizens, property and infrastructure against the threats of terrorism, crime and riots by the automatic detection of abnormal human behaviour.

The project aims to develop models for abnormal and threat behaviours and algorithms for automatic detection of such behaviours as well as deviations from normal behaviour in surveillance data. This will lead to a real-time evaluation platform based on commercially available hardware, in order to enable high-

[10] The funding also appears to be at a higher level than that available in most cases at a national level.

performance low-cost surveillance systems.

ADABTS brings together experts in human factors, signal processing, computer vision, and surveillance technology. In a first stage, the focus was on human factors in order to define and model behaviours. Then, the focus shifts towards automatic analysis of surveillance data (video and audio). Finally, a demonstration system will be implemented.

The project is led by the Swedish Defence Research Agency and Detec A/S is an SME partner in the project.

Outcomes:

The main impact of the ADABTS project is expected to be on the technological level, with advances in three directions:

- Understanding of the user needs for automatic detection of abnormal behaviour in crowds and new definitions of and methods for describing such behaviour.
- Methods and algorithms for abnormal behaviour detection based on video and acoustic sensors.
- Real time optimisation for commercially available low-cost hardware, including an online demonstration of capabilities at a football stadium.

SME Involvement

A Norwegian SME, Detec A/S (9 employees), is a partner in this consortium. It distributes video surveillance equipment and develops associated software. It was invited to join by the project leaders via Sintef, a national research organisation in Norway.

Detec is the only SME in the project. The large research organisations are responsible for the core development work packages and Detec is responsible for a work package focusing on dissemination and exploitation. However, Detec feels that it is deriving substantial benefits for its own research activity from its participation in the project and its association with the large institutions in the consortium. Other members of the consortium believe that through its role in promoting the exploitation of the project's results, Detec has brought a welcome focus on concrete outcomes and a clear perspective on future commercialisation. A particularly important outcome for the firm is the prospect of being able to continue to work with consortium partners and the export opportunities that will be available if the project results turn out as expected.

Lessons from experience

The current project funding regime has been crucial in allowing Detec to participate in this project. As with other cases encountered, Detec felt that it would not have been able to participate without professional assistance with making proposals. In this case the networking effect of the project appears to be working very well.

Implications for SMEs in the Security sector

The SME involved in ADABTS is typical of SMEs that play a supporting role in projects as opposed to being in a leadership position. Nonetheless participation in such a project is a viable strategy for entering a European market. The firm was invited into the consortium because of its existing national reputation and through its responsibility for dissemination and exploitation has helped the project to focus on concrete outcomes. The main benefits for the SME itself are developments in know-how and capacity, a wider network of working relationships and an increased potential to trade beyond national markets. This translates for the Security sector into greater depth and flexibility in the supply chain as well as an improvement in the technology available.

Often, although the SMEs play a supporting role in a project, their contributions can be critical in technical terms to the overall success of the project. The fact that SMEs in Security research have been granted a relatively high level of support – more on average than for larger firms – suggests that the SME contributions may even be more significant in this sector than is usually the case, although not to any major extent. Interesting examples of projects where SMEs have played a significant role in delivering the R&D and technical aspects of projects include the IMSK and COPE projects.

PROJECT ASSESSMENT 3

Project(s):	IMSK - Integrated Mobile Security Kit
Project timeframe:	1st March 2009 – 28th Feb 2013
Lead Partner:	Saab AB
SME involvement	6 SMEs involved among a total of 26 partners
Activity area	Project aims to develop an integrated information platform for rapid deployment at venues and sites (hotels, sport/festival arenas, etc) which need temporarily enhanced security.
Total Cost:	€ 23.47 million
EU Contribution:	€ 14.86 million
Start Date:	01/03/2009
Project type*:	

Project Description:

The projects aims to build on existing and developing technology for area surveillance, checkpoint control, CBRNE detection and support for VIP protection in a mobile system for rapid deployment at venues and sites (hotels, sport/festival arenas, etc) which need temporarily enhanced security.

Outcomes:

Legacy and novel sensor technologies are to be employed in a system that integrates sensor information to provide a common operational picture. The innovatory aspects of the system will be evident particularly in the integrated information platform that will be created.

SME Involvement

The IMSK project provides a good example of SME involvement in technical WPs. The project has 26 partners and includes a good mix between larger industry players and SMEs. The 6 SMEs involved in the project were expected to make innovative and dynamic contributions. For example, SMEs already had experience in developing particular technologies that will form part of IMSK such as a sniper detection system and 3D face recognition. The larger companies have typically taken the lead on many WPs, but SMEs have played a key role on some of them.

Lessons from experience

One of the challenges in working with SMEs identified was whether they could deal with security-sensitive classified information. Large firms typically have security clearance to a very high level and have the procedures, systems and infrastructure necessary in place to deal with classified information. The project had therefore worked very hard to 'avoid the need for classified information'.

Implications for SMEs in the Security sector

The experience of working in a large consortium and especially one with an important and active involvement of end-users provides multiple advantages for SMEs both from the point of view of product development and of marketing. The view of one large industry player in the project on the benefits of taking part from an SME perspective was that *'SMEs have developed interesting technologies and contributed to the state of the art. They have benefited from working together and strengthening co-operation with large firms. This gives them greater credibility in targeting users as potential clients, and in getting involved in EU funded research projects in future'.*

Similarly, the COPE project (Common Operational Picture Exploitation) also closely involved SMEs in R&D WPs and provides an interesting example of where dual use legacy technologies have been brought into a project and used for civil security purposes. One aspect of this process is that it raises various ethical issues that are illustrative of a wider ethical dimension to security research. Of particular interest for the part of the study that is considering SME involvement in security research

is the range of difficulties that SMES face in complying with security requirements. Both the IMSK and COPE project provide some insights into how these issues can be faced.

Project(s):	**COPE - Common Operational Picture Exploitation**
Project timeframe:	1st Feb 2008 – 31st Jan 2011
Lead Partner:	Technical Research Centre of Finland
SME involvement	
Activity area	Project aims to provide an integrated information system for the diverse range of agencies that have to face crisis events.
Total Cost:	€ 3.89 million
EU Contribution:	€ 2.54 million
Start Date:	01/02/2008
Project type*:	Collaborative project (generic)

Project Description:

The Common Operational Picture Exploitation (COPE) project aims to achieve a step change in information flow with the first responder in order to increase situational awareness across agencies and at all levels of the command chain. New technologies will provide information at the scene of an event.

First responders are often very heterogeneous group in terms of the crisis environments they face, their roles, command structure, organisational structures and cultural characteristics. The project is applying a wide range of human factors methods, ranging from functional task modelling to end user simulations, to better understand the processes of individual agencies and ensure that new systems both match requirements and can be integrated with legacy processes and technologies.

Outcomes:

The COPE project provides a good example of the effective use of dual use legacy technologies for civil security purposes. A large bundle of technologies is being amalgamated into the COPE system. This includes navigation support systems, sensor technologies, toxicity detection systems and dedicated communications technologies leveraged from technologies developed through defence research.

SME Involvement

COPE is using the skills and competencies of a strong team of research scientists both from industry and academia. There are technology providers and systems integrators and these are supported by end users. Several SMEs have been involved in the project, playing an important role in both R&D WPs and in dissemination activities (through the involvement of consulting firms). Participant SMEs had previously participated in FP funded projects during FP6. FP7 SEC was seen as attractive for SMEs given that higher co-financing rates are available than in FP6 of up to 75% for Collaborative Projects.

Lessons from experience

The primary motivation for SMEs in taking part in FP7 Security was to further develop their know-how and expertise to strengthen their consultancy service offering in future on security issues related to crisis management and to access additional EU funding opportunities through the RTD FPs in future. They did not anticipate making revenue through the commercialisation of research results. Although there may be some exploitable IP, *'only large industry players will have the necessary capital to bring this to market'* In addition, notwithstanding the encouragement provided by 75% funding, *'it is still sometimes difficult for SMEs to find the necessary co-financing contribution'.*

An external advisory board has been set up to advise on ethical issues relating to the dual use of technologies.

Implications for SMEs in the Security sector

PROJECT ASSESSMENT 3

COPE again shows how SMEs can provide specialised input into systems that require a larger perspective and important elements of integration. The SMEs gain from the technical development of their products and services, but also access to important players in their field, not least major end-users of the technology.

However, as well as leading to an appreciation of the way that SMEs are contributing to the organisation of projects and understanding how they are benefitting from them, the interviews with project participants have also helped to identify procedural issues.

The moves to simplify application procedures under FP7 and improve the funding arrangements for SMEs have definitely been welcomed. However, the job here has not been finished. A number of cases referred to the need for firms new to FP processes to have professional assistance if they are to participate in successful proposals and comply with the requirements of contracts subsequently. This illustrates the complexity of the proposal and management processes, which imposes real costs on enterprises that in general they are not able to recover. Recent efforts to simplify processes need to be continued and further opportunities sought to lighten the burden.

In terms of the mechanisms of SME participation, it has been suggested that the project requirements do not always take into account the day-to-day realities of small firms. Their management in particular needs to be very flexible to respond to unforeseen issues and difficulties in their business. Consequently, it is sometimes difficult to maintain a steady input into research processes and greater flexibility, for instance, by allowing outsourcing during the course of a project, might be more in line with the way that SMEs actually work. At the end of the day, SMEs feel they ought to be judged on the quality of what they produce, rather than the means that they employ to get there.

Furthermore, there is a considerable amount that the Commission can do to assist in the exploitation of projects once they have been completed. A number of interviewees pointed to the need to have easier access to and greater promotion of the results of projects, especially in a sector where bringing new developments to the attention of procurement authorities is so important.

Conclusions

4

4.1 Conclusions

The picture that emerges of SMEs in the Security sector is that, even though there is a difficult market, there are capable enterprises which can creatively use the opportunities presented by FP SEC to overcome the obstacles and find a viable position for themselves. In this way, FP SEC is contributing to important developments in the security market that, in spite of the presence of some world market leaders, has been characterised as being fragmented and with a shallow supply base. In addition, it is said that it has some considerable barriers to entry. Against this background, there appears to be some evidence that FP SEC is contributing to a greater cohesiveness in the market, the development of niche positions for SMEs and an increasing depth and substance in the industry's supply chains. In fact, it is this process, the study believes, that can explain the relatively high participation rate of SMEs when compared to other FP7 Co-operation Programmes. FP SEC is seen as a viable route to market in difficult circumstances.

For, it is clear that the Security theme under the Co-operation Programme has been relatively successful in attracting SME participation and that this has been achieved without a dedicated call for proposals from SMEs. It may be difficult to sustain this relative success in subsequent calls that are likely to be more capital intensive, but a good start has been made. Furthermore, the fact that unusually SMEs in the Security sector are asking for higher average contributions from the Commission than their larger counterparts suggests that SMEs are playing a more substantial role in Security research than in corresponding projects in other sectors.

With regard to achievements at project level, feedback from SME responses to our survey and from direct interviews with SMEs and other partners is that SMEs are indeed making a significant contribution to the development of the security sector in both technical and commercial terms. Some SMEs are in a leading position in their projects, initiating the original proposal and being the main drivers of the technical and commercial developments. Others have a more supporting role in contributing to the development of products and services where larger organisations are in the driving seat. Occasionally SMEs are essentially there to learn, but in most cases, it appears that they are making significant technical and commercial contributions that are appreciated by their project partners. There is even some evidence that SMEs are useful in pushing their larger partners and research institutes in the direction of concrete applications.

Sometimes the SME contributions could provide the basis for establishing a particular market niche. In other cases, SMEs are using the projects to build important relationships with other players in the market. In this way FP SEC is helping to add depth to the security industry.

The main future challenge would appear to be to build on what is already being achieved. There is a relatively high SME participation rate in FP SEC, but the absolute numbers are still relatively small and the ESRIF Report talks of a target of 25% participation. Competition among proposals involving SMEs is relatively fierce, but there is scope for helping projects involving SMEs to improve their success rate. Above all though, moves to consolidate and build on the results of projects, even by simple measures to improve the information available on results, are important, particularly in a sector where the development of integration and interoperability are so important.

4.2 Recommendations

Although SME participation in FP7 SEC compares favourably with participation in other FP Co-operation projects, there is still room for further improvement, perhaps by having dedicated SME topics included in Calls for Proposals, in order to boost the number of projects led by SMEs.

Conclusions

4

It appears that the new level of research funding for SMEs under FP7 is having an important effect in encouraging SMEs to enter a market with high barriers. Other simplification measures have also been appreciated. However, there is still room for further improvements, especially developments based on an appreciation of SME management processes and practices, such as more flexibility in allowing outsourcing and sub-contracting.

It might be also be appropriate to give more recognition to the learning function that can be important for some SMEs within an FP project. Consideration might be given, for instance, to an 'apprentice' status for some SMEs. This would recognise that they are not in a position currently to contribute substantially to core developments in a project, but it would allow them to develop their research capacity and contribute in other ways, such as representing the consortium in their domestic markets, without acting as a break on the other consortium members.

CSES has commented elsewhere on the need to have clear information on project results published in a format similar to the summary project fiches that are produced at the beginning of a project. The availability of such a document for each project would greatly facilitate further commercial exploitation and the networking between enterprises, universities, research institutes and end-users. It would also encourage other SMEs to participate.

However, a more fundamental recommendation relates to one of the major reasons that SMEs find the Security sector to be difficult terrain. Some of the significant barriers to entry that SMEs face arise because most purchasing of security goods and services is by public authorities through public procurement regimes. There is growing attention currently to 'smarter' public procurement and ESRIF called for the security sector to be included in the Lead Market Initiative. Irrespective of whether or not this development takes place formally, it is clear that the Lead Market approach to procurement in the security area could potentially make a significant contribution to strengthening the whole sector. It should be investigated further.