Final Evaluation of Security Research under the Seventh Framework Programme for Research, Technological Development and Demonstration

Final Report – Executive Summary

Written by Technopolis Group
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EXECUTIVE SUMMARY

This evaluation and the FP7 Security Research Programme

In 2014 the European Commission, Directorate-General Enterprise and Industry[1] commissioned a study on the **final evaluation** of Security Research[2] under the Seventh Framework Programme for Research, Technological Development and Demonstration (FP7). This evaluation study was conducted by a consortium led by Technopolis Group and including VVA, as well as the Manchester Institute of Innovation Research. The research methodology included desk research, statistical analysis of data from the CORDA database, surveys of participants and end-users, stakeholder interviews, a series of case studies, and a stakeholder workshop.

The **FP7 Security Research Programme** was one of ten thematic areas within the Cooperation Specific Programme of FP7. The FP7 Security Research Actions represent the first, fully-fledged EU security research programme, building on a series of European strategic and policy initiatives that were launched during the early 2000s and responding also to the events of 9/11. While the central objectives of the programme focused on increasing the security of European citizens, a major effort was also directed towards improving industrial competitiveness, with a research agenda reflecting the needs of users across Europe.

The Security theme of FP7 had an exclusively civil **orientation**. It was conceived as a mission-driven programme, addressing four main security missions – 'Security of citizens', 'Security of infrastructures and utilities', 'Intelligent surveillance and border security', 'Restoring security and safety in case of crisis' – and three cross-cutting domains – 'Security and society', 'Systems integration, interconnectivity & interoperability', as well as 'Security research coordination and structuring'.

Six FP7 calls for proposals were published from 2007 until 2013.

- 1,790 eligible proposals were submitted with a total requested EC contribution of €6.7b. One in every six proposals was retained for negotiation.
- All in all, 307 projects were funded through the FP7 Security Programme over its lifetime (as of June 2014).
- The total cost of these Security projects was €1.788b, with the EC contributing €1.263b (or 71%).
- The average contribution per project was €4.1m, and per participation was €338k.

The main outcomes of the evaluation are grouped under Evidence Building Blocks (EBB) used by the European Commission for the FP7 Ex-post Evaluation and related studies.

[1] On 1 January 2015, the 'Policy and Research in Security' Unit moved from DG ENTR to DG HOME and became Unit HOME-B.4 'Innovation and Industry for Security'. At the same time, the name of DG Enterprise and Industry was changed to DG Internal Market, Industry, Entrepreneurship and SMEs (DG GROW). In the following, the different designations are used according to context and timing.

[2] The terms Security Research Programme and Security Research Actions (SRA) will be used interchangeably.

EBB1: Rationale – programme relevance and internal coherence

- The general and specific objectives of the FP7 Security Research Actions (SRA) correspond to the **needs** of EU stakeholders. This is confirmed by the results from each of the data collection methods.

- The great majority of participants, interviewees and workshop delegates commended the **scope** of the FP7 SRA. Another strongly positive factor was the evolving thematic focus to give greater weight to the issues of terrorism and cyber-security over the course of the FP7 programme period.

- Overall, the programme attracted **six proposals for every approved project** (ratio of 6:1), which is higher than the average for the Cooperation Programme overall (ratio 5:1).

- The **objectives and mission areas** are all considered to be relevant by 40-50% of the respondents to the participant survey; a result that was confirmed by the stakeholder interviews and discussions at the stakeholder workshop. 'Security of citizens' is the area that is most widely regarded as being relevant for all stakeholders, whereas none of the specific objectives or mission areas is seen as being of particular relevance to small and medium-sized enterprises (SMEs).

EBB2: Implementation – administrative requirements & efficiency

- The programme has been implemented reasonably **efficiently**, with participants applauding the introduction of various process improvements and simplification measures.

- There was widespread frustration regarding the **time-to-grant** (TTG). The statistics are worse than the average for the Cooperation Specific Programme. It is understood that the major factor for this difference in performance is most probably the Security Scrutiny, a standard procedure unique to the SRA. The process has been looked at very closely and, as a result of some fine-tuning and intensification, the first call for Horizon 2020 met the new 240-day target for TTG.

- FP7's introduction of additional **ethical review procedures** met with mixed reactions, with some feeling that the new tests have added costs without benefits and may even begin to exclude certain actors or types of work from future programmes, while others have welcomed the softening of the overly technocratic perspective of some security research.

- The Commission Services have gradually implemented simplification measures across EU framework programmes to minimise the administrative cost to applicants. The survey respondents who were aware of these changes stated that the introduction of the Participants Portal had the **largest positive impact**. Many of the concerns about FP7's administrative burden and procedural inefficiencies have partly been addressed in the progression from FP7 to Horizon 2020.

- During FP7 the implementation of calls and grant agreement management was partly **delegated to the Research Executive Agency (REA).** This move went rather smoothly, and there is a good working relationship between the dedicated teams in the policy unit in DG HOME and the executive agency. The security policy unit has a small staff, and policy and project officers found outsourcing of part of the project management to the REA to be a very positive development, freeing up capacity to work more intensively on the development of the later FP7 work programmes, the preparation of Horizon 2020 and increasing space for interaction with other DGs and wider security interests.

The new arrangements however mean that the security policy team has a somewhat lower level of engagement with project-level activities, as only about a third of all projects are managed by the security policy unit. However, the situation has improved, and the team also now has oversight of the two-thirds of projects managed by the REA.

- As for **dissemination** and **uptake of results,** individual project seminars hold limited interest for the community at large. The act of bringing together 10 or 20 projects from a similar security field to present their results could tip the balance, leading a much greater number of actors to invest the time and energy to hear about research achievements and discuss opportunities.

EBB3: Direct Achievements – activities, outputs and participation

- The research activities were unevenly distributed across **mission** areas. Three of the main security missions accounted for an above-average share of all projects, participations and EC contributions, namely 'Security of citizens', 'Security of infrastructures and utilities', and 'Restoring security and safety in case of crisis.' The three cross-cutting missions accounted for just 23% of EC contributions to the Security Programme. From the evaluation team's reading of the situation and feedback from participants and stakeholders, this 'uneven' distribution does **not constitute an imbalance** in the portfolio and there are no fundamental gaps in the programme's coverage.

- FP7 Security Research achieved more than double the **participation rate** by public bodies (excluding research and education) as compared to the Cooperation Specific Programme overall, reflecting also its focus on end-users. Its level of industrial engagement also exceeded the average for the Cooperation Programme overall, while the involvement of higher education institutions was very much lower, both of which reflect the programme's support for capacity building and demonstration.

- With 21% of all participations being made by SMEs, the programme also surpassed the Commission's targets for **SME** engagement (15%), notwithstanding arguments from some stakeholders that the support for SMEs had benefited private technology centres and consultancies more than the high-technology manufacturers. While both types of SME were present among project participants, the latter may benefit from further encouragement to take part in the Security Research Actions.

- The programme supported a large number of actors from many different **countries**, both from within Europe and beyond.

  – Overall there were 48 different countries involved in FP7 Security projects (on average 78 participations per country).

  – Participation was skewed towards the larger EU Member States with established security research interests such as France, Germany and the UK.

  – However, the ranked order of countries changes when one adjusts the number of participations and EC contribution for country size, with Luxembourg, Malta and Finland being the top participating countries.

  – The top two non-EU Member States by number of participations and EC contribution are Israel and Norway.

- The programme performed poorly on **diversity**, although its performance was in line with the Cooperation Programme overall. There are several sources of data on the gender of those involved in Security Programme participations – none of which is entirely comprehensive. Where known, the majority (83%) of lead scientific contact points for participations in FP7 Security projects were male, while just 17% were female. This rate was similar across all mission areas.

- A majority of contributors believe the Programme has made good progress in its ambition to engage **end-users**. While the interaction is a long way from perfect, the intent is clear and the direction of travel positive.

EBB4: Wider achievements – outcomes, impacts, value for money

- The great majority of closed projects report that they have achieved all or most of their **objectives;** for the projects still running there is a high expectation that the objectives will be met.

- Advances in knowledge, new or improved technologies and improved security solutions are the **results** that are most widely reported. Around 20% of respondents have seen or expect to see their project result in policy outputs, market applications and standards, and new patents.

- It is concluded that the Security Research Programme has had a **positive impact** on each of its specific objectives. The great majority of participants (75%+) hold this opinion. There is very little difference in the feedback, objective by objective. However, on balance, a greater share of participants believes the programme has made a substantial contribution to the 'developing technology to build capability' objective (85%).

- Moreover, the evaluation team concludes that the programme has had a significant impact on the EU's **security industry** and is improving the global competitiveness of the EU's security industry. A majority of participants believe that the impact has been at least medium if not high. There is slightly less widespread support for the programme's contributions to overcoming fragmentation in EU security markets and implementation of 'privacy by default' principles as part of development methodologies for security technologies.

- Importantly, it can be concluded that the programme has improved the **connections between the providers and users** of novel civil security solutions. In the survey, participants expressed positive views about the programme's contributions in this regard; however, most also noted that cooperation was still under-developed. Interviewees flagged the need for substantial further work to improve the connectedness of groups of end-users to improve market efficiency, through mutual learning, common standards, multi-client procurement or system-to-system connectivity.

- The programme has successfully attracted many of Europe's leading national **research laboratories** and major security and defence companies.

- The Security Research Programme has produced relatively few **research publications**, reflecting its focus on capability building and demonstration activities. One would expect this rather operational focus to be reflected in a preponderance of non-academic partners and a relatively low number of publications compared with other parts of the Cooperation Specific Programme.

- FP7 Security Research has helped to expand capacity and shape the **research landscape**, with several pan-EU networks as well as national groups having been established.

- The programme has also had a positive impact on **Member State investment in security research**, with several new national programmes having been created or expanded (e.g. Tekes Safety and Security programme, in Finland) and evolved (e.g. the collaboration and mutual opening up of the French and German national civil security research programmes).

- The programme also performed reasonably well on **financial leverage**, securing an additional 30% of funding and contributions in kind, to match the EC contribution. This is in line with the performance for the Cooperation Programme overall.

- **Value for money** is a difficult test to apply to any EU research programme, with output productivity and participant opinions providing two proxies for an assessment. On output productivity, the Security Research Programme performs poorly in comparison with other parts of the Cooperation Programme, reflecting the standard key performance indicators used by FP7, which emphasise research outputs such as journal articles. None of these indicators really capture the focus of the Security Research Actions and the fact that, as a new programme, the SRA had to invest heavily in building new pan-EU networks and knowledge exchange across end-users, industry and researchers. Similarly, the comparably low level of patents for FP7 Security Research may reflect the strategy to focus the SRAs more on integration than on the technologies needed for security applications that may exist already. Participants are somewhat ambivalent about value for money: A small majority (54%) believes that the benefits outweighed the costs, while around 17% consider the costs outweighed the benefits.

EBB5: European Added Value (EAV)

- The European Added Value is defined as a benefit that cannot reasonably be achieved by the actions of individual Member States or private actors or which is likely to be substantially greater if pursued at an EU level rather than nationally or through some narrower territorial alliance. It is generally **difficult to assess**.

- The study team is of the view that the EAV of the programme is **rather strong**. The conclusion is supported by the results from all data gathering methods: the feedback from stakeholders, with a high degree of consistency across the many interlocutors and even among different types of actors, as well as the opinions expressed in the participants' survey allow for such a conclusion.

- On balance, the evaluation team concludes the programme was **sized** appropriately and that its strategy of focusing first on coordination actions and smaller research projects was well judged. Given the continuing level of demand for funding, and the escalation of security issues, the evaluation team would argue for an increased budget in any forthcoming programme.

- The FP7 Security Research Actions are judged to be a good fit with **other Community and Member State activities and policies** in the area, showing strong complementarity and with very few examples of unnecessary duplication. This is assured by the close involvement of Member States, through the Programme Committee, in finalising Security Research work programmes, and the work of DG HOME (previously DG ENTR) policy officers in consulting with other interested DGs, ensuring a high degree of coherence between services.

EBB 6: Conclusions and key recommendations

(1) The study concludes that there is a strong case for **continuing to fund security research** under Horizon 2020, at a level that at least matches the scale of investment in FP7. It is recommended that the Commission develop a clearer overarching strategy for the programme that explains the nature of the challenges and what role an EU research programme can play in addressing these challenges.

(2) While numerous suggestions were received that invited the Commission to introduce **further simplification measures**, many of those ideas have been implemented in the transition from FP7 to H2020, which ought to reduce the administrative burden on participants. There are no further specific recommendations on this issue.

(3) Promotion of the Security Research Actions to SMEs should be continued. The creation of the **new SME Instrument** is a helpful development, inasmuch as it enables individual businesses to apply for support at different points in the commercialisation journey (including help with access to finance) and without the requirement to collaborate with research and technology organisations or indeed other businesses, unless that is beneficial. In addition, the Commission could develop a briefing note that National Contact Points and others might use when promoting security research to resident high-tech SMEs.

(4) The creation of two **new models for innovation procurement** will be important for security research, offering a platform through which end-users can play a more influential role. However, there is a lack of transparency regarding the links between these new instruments and current and future calls for security research proposals and some further development of briefing materials for NCPs and other advocates would be helpful.

(5) DG HOME should consider the potential for developing a new **European Innovation Partnership (EIP)** focused on one of Europe's most pressing civil security challenges where cross border cooperation and the creation of stronger links between demand and supply sides will be most critical.

(6) It is recommended that the Commission **map the security research landscape** systematically. It could catalogue other security research and innovation practices, and set up an observatory to report on progress, achievements and issues arising.

(7) The Commission should continue to **strengthen the role of end-users** in security research. In particular it should study ways to further buttress the role of end-users in all phases of the implementation of the Security Research Actions, including the project cycle i.e. the preparation of work programmes, the proposal evaluation, the project implementation and review phase, including an assessment as to the novelty of the envisioned output of research proposals during the proposal evaluation.

(8) There is a need to do more to **maximise the benefits derived** from the FP7 Security Research Programme and to reduce the tendency for insights and tools produced within projects to be left behind as partners move on to new projects or other priorities. It is recommended that the Commission consider hosting a series of FP7 Security Research cluster events or symposia.

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