



*Criteria for Assessing and Mainstreaming
Societal Impacts of EU Security Research Activities.
Coordination and Support Action.*

*Report on good practices of the exploration
and assessment of the societal impact of
research*

Deliverable 1.3

Technische Universität Berlin

ASSERT is co-funded by the European Commission under the 7th Framework Programme, theme „security“, call FP7-SEC-2012-2, work programme topic 6.3.2. „Criteria for assessing and mainstreaming societal impacts of EU security research activities – Coordination and support action“.



Imprint

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Version history

Version	Date	Change/Remark	Responsible (person, beneficiary/function)
1	14 Nov 13	Draft outline	Lars Ostermeier
2	11 Feb 14	Draft including comments by Barbara Prainsack	Lars Ostermeier
3	21 Feb 14	Included comments by BP and FF on section 2, included draft for section 4	Lars Ostermeier / Barbara Prainsack
4	28 Feb 14	Final Draft	Lars Ostermeier
5	03 Mar 14	Final Version	Lars Ostermeier / Barbara Prainsack

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1. *Executive Summary*

The objective of this report is twofold. First, it summarises the findings of the research for ASSERT Deliverable 1.2 (Overview of main methodologies and good practices). This includes the identification of good practice criteria that can be used to design SIA processes as well as to assess SIA plans (2.1). This, in turn, forms the basis for a number of recommendations for the effective use of SIA across different phases of the research and development process. The second objective is to draw on the results of two workshops and one Masterclass (held between September 2013 and February 2014) in order to illustrate how the development of good practice criteria can help to design and to assess SIA procedures. We present a typology of SIA in different phases of the R&D process that was developed and discussed in two ASSERT workshops. The final section of this Deliverable presents the concept for a SIA Masterclass, as well as feedback on the format received after the first Masterclass was held (February 2014).

Section 2 of the report situates SIA within the RRI framework and argues that the goal of a wide acceptance and use of SIAs across different countries, fields, and contexts continues to be jeopardised by a lack of institutional embeddedness, both in terms of structures and working cultures. The development and proliferation of good practice criteria for SIA can contribute to more conducive institutional contexts for SIA by means of changing institutional practices and cultures in research institutions, Higher Education Institutions, and funding agencies. The section also includes ten good practice criteria for planning and assessing SIAs that were developed within ASSERT (and will inform the ASSERT tool).

Section 3 draws on the results of a workshop to develop a systematic approach towards SIAs across five R&D phases: programme planning; project evaluation; project implementation; programme evaluation; and the use of research results. It is argued that the phased approach helps to systematically plan attempts to increase the consideration of societal impacts of security R&D across the whole process.

Section 4 introduces a concept for SIA training called the Masterclass and reports on the results of a first trial of the training exercise. We argue that the Masterclass is a promising concept for SIA training because it helps researchers, administrators, and policy makers to better understand conceptual and practical issues of SIAs. This ultimately contributes to an increase of the capabilities to plan SIAs that are in line with the good practice criteria. Following the first 'trial' run of the Masterclass, the ASSERT consortium has received valuable and constructive feedback from participants, which will be discussed in the final section of this Deliverable.

2. Good Practice Criteria for SIA

The objective of this report is twofold. First, it contextualises SIA in the emerging RRI framework for security research (2.1) and summarises the findings of the research for ASSERT Deliverable 1.2 (overview of main methodologies and good practices). This includes the identification of good practice criteria that can be used to design SIA processes as well as to assess SIA plans (2.2). This, in turn, forms the basis for a number of recommendations for the effective use of SIA across different phases of the research and development process. The second objective is to draw on the results of two workshops and one Masterclass (held between September 2013 and February 2014) in order to illustrate how the development of good practice criteria can help to design and to assess SIA procedures. Section 3 presents a typology of SIA in different phases of the R&D process that was developed and discussed in two workshops organised by ASSERT. The fourth section presents the concept for a SIA training called Masterclass and the results of a testing of the training concept.

2.1 SIA in the context of the Responsible Research and Development agenda

The development of good practice criteria can help to mainstream and operationalise the objectives of the Responsible Research and Innovation (RRI) agenda set out by the European Commission:

[RRI] refers to the comprehensive approach of proceeding in research and innovation in ways that allow all stakeholders that are involved in the process of research and innovation at an early stage (A) to obtain relevant knowledge on the consequences of the outcomes of their actions and on the range of options open to them and (B) to effectively evaluate both outcomes and options in terms of societal needs and moral values and (C) to use these considerations (under A and B) as functional requirements for design and development of new research, products and services. The RRI approach has to be a key part of the research and innovation process and should be established as a collective, inclusive and system-wide approach. (EC 2013: 3)

While we are sympathetic to the objectives of the RRI agenda, we remain cautious of overly instrumental approaches to achieve them. As we will argue below, SIA planners and implementers can consider some core good practice criteria that help to avoid designing SIA as a tokenistic exercise or as an overtly bureaucratic burden but as a genuine learning exercise that helps to better consider the societal dimensions of (security) R&D in the planning and implementation of projects. While SIA as part of the RRI framework is increasingly being understood as a promising remedy, the

acceptance and wider use of SIAs continues to be jeopardised by the lack of institutional embeddedness. The development of good practice criteria for SIA can contribute to more conducive institutional contexts for SIA by changing institutional practices and cultures in research institutions, Higher Education Institutions and funding agencies.¹

Before we turn to good practice criteria, we will briefly discuss the question of who should be in charge of planning and implementing SIA plans. A recent *Eurobarometer* study on RRI reports that more than three in four respondents agreed that the EU should take measures to address the ethical risk of new technologies.² Interestingly, public discourses about means to ensure that such risks will be addressed seem to be focused mostly on rights and ethics: “Most agree that respecting ethics and rights guarantees research and innovation will meet citizens’ expectations” (Eurobarometer 2013: 112) While SIA is not mentioned explicitly in the *Eurobarometer* report as an approach to operationalise RRI objectives, it is noteworthy that the Report found a large preference for mandatory ethics trainings and even for an oath: “A large majority think there should be mandatory ethics training for researchers, and an oath taken to respect ethical principles and legislation” (ibid.). Two in three respondents said that scientists working at universities or in government laboratories should play a leading role in explaining the impact of science and technology on society. Scientists working for private companies were preferred by just over one in three respondents for this role (Eurobarometer 2013: 43). Only 4% said that politicians should play a major part here. A slim majority (55%) of all respondents considered public dialogue as necessary for decisions about science and technology being taken, while about one in three respondents said that such a dialogue was not required (Eurobarometer 2013: 41). Three in four respondents thought that the impact of science and technology on society was overall positive (Eurobarometer 2013: 51). In seeming contrast to the large support for mandatory measures, most respondents also expressed trust towards scientists: “At least eight out of ten think that scientists working in government laboratories or universities (82%) and environmental protection associations (81%) try to behave responsibly towards society by paying attention to the impact of their science and technology related activities” (Eurobarometer 2013: 56).

This short glance at the recent *Eurobarometer* survey highlights the relevance of SIA for R&D. It appears that SIA needs to be brought from the policy making level into the project implementation level in order to put academics and scientists into leading roles for SIA planning and implementation. At the same time, the *Eurobarometer* survey shows that a narrow understanding of societal impact as merely ‘ethical’ aspects prevails. This narrow understanding should be overcome.

¹ This objective has been formulated in one of the recent Horizon 2020 calls: Topic ISSI.5.2014.2015 - Supporting structural change in research organisations to promote responsible Research and Innovation in the H2020 Workprogramme „Science with and for society“, p.25.

² http://ec.europa.eu/public_opinion/index_en.htm

2.2 SIA Good Practice Criteria

The previous report in work package 1 of the ASSERT project (Prainsack/Ostermeier 2013) concluded that “[a] core challenge of SIA at present, according to Vanclay and Esteves (2011: 4), is to find ways to communicate more effectively, and to demonstrate the value of SIA more clearly.” Drawing on evidence from our research in ASSERT, this observation still holds valid. The partners have organised two workshops and one Masterclass in the recent six months, where results of our research were presented and where we received valuable input from the participants. It appears that in the domain of security research, levels of awareness and acceptance of SIA have so far been relatively low. There is a dominant perception, especially among traditional industry and security actors, that SIA is an obstacle rather than a benefit for research and technology development in the security domain. Among policy planners, evaluators and research programme implementers there appears to be little awareness of how SIA could benefit their work and how SIA should be implemented. Even researchers sympathetic to the ideas associated with SIA are unsure about how to include such assessments into their research agendas and projects at a practical level. This section of our report therefore sets out to develop good practice criteria that are based on lessons learnt from the literature review and that can be referred to when planning an SIA and/or when assessing the quality of an SIA plan.

To develop best practices for SIA, the ASSERT consortium draws on relevant approaches used in practice, most importantly, social impact assessments, constructive technology assessments (CTA) and privacy and surveillance impact assessments (PIA/SuIA). Drawing on the mainstreamed definitions by Rip and Schot, a recently submitted publication from members of the ASSERT consortium suggests that constructive technology assessment’s (CTA) “main value ... is not about predicting possible future impacts of the technology as accurately as possible – rather, it lies in the dialogue and the interaction it requires the actors to engage in, while developing a technological solution” (Kreissl et al. 2014: 4). Interestingly, speaking from an industry perspective, Harvey (2011) reached a similar conclusion, voicing the need for better training of experts in charge of planning SIA processes, so that they conceive these assessments not merely as a tick-box exercises or as the development of return on investment plans, but as ongoing processes that facilitate a deeper understanding of the core societal issues at stake and genuine dialogue among the stake-holders.

1. **Pragmatic school:** SIA configured to the compliance required of host jurisdictions’
2. **Procedural SIA:** focus on in-depth understanding of the core issues, and often on creation of consensus among stake holders
3. **Return on investment for societies:** Quest for increasing social benefits of planned interventions

Box 1: Harvey’s three SIA ‘schools’ (adapted from Harvey 2011)

It is clear that a tokenistic exercise in terms of Harvey's first school (see Box 1) would be of little help in this context. At the same time, a business-case in lines of the third school might be important for some stakeholders, but not necessarily a good practice in light of the good practice criteria developed in this report. The second school seems the one to meet the generic criteria outlined above the best. *The character of the second school renders SIA as an iterative process that allows to intervene at different intervention points with different methods that share in common the normative assumption that a dialogue of stakeholders itself is a benefit.* This highlights the importance of SIA training as an approach to facilitate SIA in contrast to the approach to develop methodologies and detailed guidelines. Rather than educating potential planners and implementers of SIA procedures to follow pre-determined recipes, it is important to put them in a position to plan SIA procedures that meet good practice criteria and the needs of their specific projects and contexts at the same time.

Knowledge, Power and conceptual issues of SIA

The importance of SIA training becomes even more evident considering the trend in the SIA literature from context-neutrality towards contextualization.³ This trend can be understood as a reaction on the frequently cited 'obsession' within much of the SIA literature with methods and procedures rather than the focus being on the outcome and the impact of a certain project. On a conceptual level, *a best practice criterion for carrying out societal impact assessments in practice is to not limit them to being merely risk assessment exercises.* While it is certainly important to identify risks and to take appropriate measures to pre-empt, minimise, or mitigate them, it is equally important to understand societal impact assessment as a process that broadens the range of alternatives by *reframing* an issue instead of sticking to "a pre-determined range of possible alternatives" (Prainsack/Ostermeier 2013: 17). The potential of the SIA design to reframe the project and R&D process is therefore the first important good practice criterion to plan and assess SIA procedures.

SIA Good Practice Criterion 1:

Has the SIA design the potential to change the project and R&D process?

The extent to which there is potential to reframe the project (including the projects goals and how they will be reached) will largely depend on how open the outcome of the process is. If very specific deliverables are promised, then the capacity to change or modify the project are more limited than if the deliverable specification was more open, allowing for the inclusion of unanticipated findings and results. This also raises the question of whether or not there should be criteria that, if met, would lead to the abandonment of the project. While the latter is not a possibility at present in most R&D projects in the security research domain, it is important to carry out a threshold analysis at the pre-application state to determine whether or not the inclusion of the scenario of project abandonment is necessary. Pertaining to a less 'extreme' scenario, and probably more important for the implementation phase of projects, is the question

³ With contextualisation, we refer to the acknowledgement of the need to adapt generic principles for SIA to specific contexts where those principles are being applied (see for example Vanclay 2003).

whether and how the core mission or stakes of and in a project can be reframed while it is under way. This question needs to be addressed both in terms of its implications for research activities as well as in terms of project management and reporting.

Closely related to the reframing of research questions and objectives is the topic of public, user, and stakeholder participation. While participative approaches in research are becoming increasingly common in both applied and basic research, reviewing the relevant literature (see Prainsack/Ostermeier 2013) one frequently encounters the concern that too often, participation is being considered not as an opportunity for genuine learning but an ‘education exercise’ to create consent and acceptance among those who may be skeptical. In other words, participation serves the purpose of reducing friction points and increasing acceptance (see also Bogner 2012). In order to facilitate opportunities for genuine learning, it is important to render power differentials visible and put them on the discussion and negotiation agenda (see also Wadhwa et al. 2014). Questions to be discussed include: Who is likely to benefit from the research that the project sets out to do? How are they likely to benefit, and at the cost of whom? Who will be empowered and disempowered by this research (see Prainsack/Toom 2010)? Who is likely to suffer adversity, and how can these asymmetries be balanced? What are the external factors of the project impacting on the research activities? The second SIA good practice criterion can therefore be identified as follows:

SIA Good Practice Criterion 2:

Is participation being taken seriously?

Attempts to plan and manage the societal impact of security research projects will need to produce knowledge about how users, stakeholders, and publics can be included in the most productive manner. One way to facilitate the careful consideration of issues pertaining to the nature and format of participation is to explore the distribution of power and agency following the guidance by Prainsack (2014, see for details Annex III). In cases where such a deeper assessment cannot be carried out, it is important for SIA plans to at least make explicit who is in the position to define what is important and less important. Furthermore, the roles and responsibilities of all project participants (and users and other stakeholders that are included in the project) need to be clearly defined from the beginning on. Any kind of user, stakeholder, or public participation should be conceptualised as a process that is supposed to have an impact on security research and not to create acceptance or reducing opposition. It is in this line of thinking that “a dialogue among different individuals and groups who are considered (or consider themselves) as potentially affected by a planned project is a benefit in itself.” (Prainsack/Ostermeier 2013: 5) It needs to be emphasised, however, that it is important for SIA planners and managers to act upon the constructive ‘irritation’ that this dialogue can create (e.g. by adjusting or amending the project’s goals, methodologies, user engagements, etc.).

The conceptualization of SIA as a genuine learning process as opposed to a risk management process constitutes a major difference that allows for the identification of a number of more specific best practice criteria, reflecting reservations against an

overly instrumental take on SIA. One of them is *flexibility* that should allow to sufficiently accommodate the impact of a SIA process.

SIA Good Practice Criterion 3:

Is the process flexible?

Project managers and researchers will need to determine the level of flexibility that ensures a productive SIA process. Closely related to the need for flexibility is the requirement to design SIA processes in a way that ensures their implementation from the early stages of the research projects, and their ability to feed the results into the R&D process.

SIA Good Practice Criterion 4:

Is the process iterative?

Deliverable D1.2 of the ASSERT project concluded that “In this spirit, the main outcome of ASSERT should be a resource that requires and structures critical reflection, guiding and facilitating the conduct of societal impact assessment...” (Prainsack/Ostermeier 2013: 5) The demand for an iterative process however bears the tendency to create a second layer of project planning and management. This can be a burden for research budgets and another strain on the limited time that researchers have available. Taken together, the requirement of rendering processes iterative can pose a risk for the acceptance of SIA plans, and lead to their perception as a burden rather than a benefit. What every SIA can do, however, is to facilitate iterative processes wherever it is meaningfully possible (e.g. where project participants support this and see this as a benefit).

SIA Good Practice Criterion 5:

Is the administrative burden reasonable?

One way to achieve the goal of keeping the administrative burden that a SIA adds to a project very limited, or – even better – to design SIA in such a way that it helps to decrease administrative burdens throughout the project, is to redesign existing assessment processes that are already in place in some institutions or to broaden/adjust the scope of, for example, ethical review procedures. ASSERT argues that good practice criteria can be helpful both for developing SIA plans that facilitate both genuine learning and the redesigning of existing assessment processes to contain or reduce administration costs (in the wide sense of the word). Another important measure is to be very explicit about why, at certain stages in the process, SIA might create extra work, and how this benefits the overall project. If the benefit is unspecific or unclear, SIA planners and managers should consider cancelling the effort. Scaling down the scope and impact of SIA during the course of a project belongs to the abovementioned flexibility requirement in the same way that scaling it up does.

The research carried out within ASSERT highlights that it is important to understand the difference between SIA on the one hand, and evaluation on the other, when planning or managing SIA processes. Although the two processes can shade into one another, their points of gravity are different: While SIA has a prospective scope, evaluation has a retrospective scope. It is therefore important to define what the focus of the prospective scope should be: unintended consequences, questions regarding who benefits, or positive outcomes? This process includes far-reaching decisions about what needs to be known, what can be left aside, and possibly even what should be concealed in SIA processes. Furthermore, it should be made clear in the SIA plan who has access to which kind of knowledge, and to highlight to what extent transparency is desirable: are there situations where transparency cannot or should not be achieved? Rappert (2012), for example, has shown how ignorance and concealment contribute to the production of order in negotiation and assessment procedures in the international security policy making domain. This approach and the literature on “ontopolitics” (Mol 2003) can make a fruitful contribution for conceptualising transparency in SIA processes by showing that transparency and accountability always involve decisions about issues that should *not* be made transparent.

SIA Good Practice Criterion 6:

Is the process transparent?

One crucial example for the importance to consider the scope of SIA on the time scale is the question whether or not a SIA plan should go beyond the formal end of a project (e.g. after funding has ended). While there are good reasons for why this should be the case, mainly because the results of projects are likely to continue to impact on society in various ways after the project has concluded, budget limitations render it unlikely that serious attempts to manage the impact of the results will be made. Awareness and transparency about such limitations increases both the *transparency* of the SIA procedures as well as an understanding of its *limitations*. A clear statement about the societal impacts that have not been taken into account in the SIA management plan can help to avoid misunderstandings about the remit and scope of a particular SIA process. A relevant example for this is the proliferation of security technologies in countries outside of the European Union. NGOs like *Statewatch* have repeatedly voiced concerns that efforts to strengthen the consideration of ethical and societal issues in security research are of little value if findings and products are developed for export to markets outside of the European Union.⁴ The transnational dimension of impacts tends to be neglected in the SIA literature.

SIA Good Practice Criterion 7:

Are the limitations / the scope of the process clearly stated?

Besides the inevitable limitation that access to relevant data and information tend to be restricted in many contexts in the security domain, other likely limitations pertain to resources and the temporal scope. Moreover, related to user involvement, stakeholders,

⁴ See for an example on spying software proliferation: <https://citizenlab.org/2013/03/you-only-click-twice-fishers-global-proliferation-2/>

and publics, even the most participatory approaches will have limitations, which should be openly talked about (also with users, stakeholders, or members of the public, before they agree to participate). The latter point is also relevant regarding the objectives of the dissemination strategy, which should be aimed at communicating the results of the project and the SIA process, but not to simply ‘sell’ it. Considerable emphasis has been put (in our workshops) on the use of social media as a means to communicate with the broader public beyond the SIA processes.

Qualitative Issues of SIA

While the first seven criteria have primarily addressed issues of knowledge and power as well as conceptual issues, the final three criteria address qualitative issues of SIAs. A general requirement that can be inferred from the literature and the research carried out within ASSERT is the need to clearly define how societal security is understood and how the societal impact of a research programme, a project, or a product, is conceived. While the societal security concept lacks a coherent definition, its benefit for SIA is that it refers to the procedural dimensions of security (Buzan et al. 1998). Authors working in a project on *European Security Trends and Threats in Society* (ETTIS) have defined the term societal security as signifying “ultimately what different societal actors perceive as societal security. By its very nature, societal security is continuously in the making, and it harnesses a variety of stakeholder perspectives” (ETTIS 2012: 4). In general, according to the ETTIS consortium, the concept societal security is concerned with four aspects: definitions, dimensions, sources and societal security strategies & governance (ibid.). The report provides for a working definition describing societal security as “*the security of societal sources of human well-being in general, and the societal sources of individual security in particular*” (ETTIS 2012: 23, original emphasis).

SIA Good Practice Criterion 8:

Is the prevalent understanding of societal security in a given project clearly defined?

Applying the four aspects of societal security identified in the ETTIS Report to the SIA debate, they require SIA planners to consider and make explicit (a) how societal security is being defined and delineated, (b) the scope of the concept, (c) the factors that impact on societal security, and (d) how “strategies can be devised and implemented at any level ... in a coordinated and coherent manner in order to increase security” (ETTIS 2012: 7). In short, explicitly reflecting on how a project impacts on societal security (in its prevalent or relevant iteration) requires SIA planners to reflect the implicit understanding of security and how their project is related to this understanding. This opens security research to a broader understanding of both securities and societies. The concept societal security is also helpful in overcoming what has been called a technology fetishism in security research, suggesting ever more technological ‘fixes’ for inherently societal issues (see Hayes 2009 and IRISS 2012).

In Deliverable 1.2 we emphasised the need to render SIA an assessment of *societal* impacts, including a much broader scope of SIAs than approaches referring to *social*

impact assessments. SIA planners and implementers should thus be asked to specify how they conceive of societal impacts of the project. Broadly speaking, societal impacts can be understood as the impacts (e.g. benefits, unintended consequences, harm) on individuals, households and enterprises and communities at each level of society. It is important to avoid limiting the scope of an SIA plan to those directly and obviously affected by a project but to include also those who may be affected indirectly. In addition, there is a need to identify the range of societal impacts that are considered and dealt with in an SIA plan. Wadhwa et al. (2014) provide for a detailed step-by-step guidance on how to identify societal impacts.

SIA Good Practice Criterion 9:

Is societal impact clearly defined?

Finally, our consultations with experts and stakeholders have consistently shown that there is a need to specify the kind of knowledge that is being produced in a SIA. This is important also for the purpose of expectation management. Cashmore (2004), for example, distinguished the purpose and the role of the knowledge produced in Environmental Impact Assessments. By making this distinction, he pointed out to the contradiction that impact assessments are at the same time expected to produce objective knowledge or ‘facts’ about the projects that can at the same time be used for decision making in inherently political matters. Citing Ulrich Beck, who claimed that “scientific rationality without social rationality remains *empty*; but social rationality without scientific rationality remains *blind*” (Beck 1992), Cashmore argued that in impact assessments, “social science theory becomes more than simply an adjunct to a technical process; it becomes integrated with, and integral to, EIA theory concerning the role of science” (Cashmore 2004: 413).⁵

SIA Good Practice Criterion 10:

What kind of knowledge is being produced in the SIA procedure?

Projects like the VALUESEC project have shown that impact assessments will always need to include the gathering and analysis of qualitative data, if not solely, in addition to quantitative data.⁶ SIA planners and implementers need to be aware of the differences between scientific knowledge, knowledge for political and societal decision making, and risk management knowledge. Considering the type of knowledge helps to avoid pre-determining the outcome of the SIA by using inadequate causal assumptions and definitions (Cashmore 2004: 422). Precisely for the reason that SIA cannot and should not meet academic standards in knowledge production and analysis, it is capable of accommodating different societal realities of R&D projects (ibid).

⁵ The acronym EIA in this citation refers to Environmental Impact Assessment.

⁶ <http://www.valuesec.eu/content/valuesec-project>

3. SIA across the different phase of the R&D process - a phase approach to SIA in security research

We have argued in the previous chapter that ‘good’ practices in SIA need to consider political dimensions of knowledge and power as well as some conceptual issues. Planning and doing an SIA always means to stimulate, initiate and potentially moderate broader societal discourses. Therefore, we have suggested that SIA approaches should not be mere consultation exercises enhancing the effectiveness of security research in terms of facilitating the implementation and acceptance of security policies or economic policies. The development of more specific good practice criteria and concepts how to implement them requires a specification of the context where SIA is being used. Very similar to the phases of the R&D process that have been defined by the ASSERT consortium, a report by the Societal Impact Expert Working Group has listed five phases of security R&D:

1. Work Programme & Annual calls;
2. Proposals;
3. Negotiation;
4. Project Execution;
5. Implementation of a completed product, system or techniques in different contexts (CIES 2012, p. 11).

When planning and managing a SIA process, it is important to consider the phase where it is supposed to be implemented. In each of these phases, the goal orientation, openness, stakeholders, methods/procedures and the outcome of the SIA will be different.

At a workshop in November 2013 in Berlin, the ASSERT project invited 30 experts from the security research domain to discuss SIA in the five phases. The objective of the workshop was to identify end user needs, requirements and best practices in social impact assessment (SIA) in security research and to discuss the transferability of approaches from other research domains.⁷ The expertise represented by the experts included research programme planning at national levels and at the European level, evaluation of FP7 projects, research funding administration, implementing research projects, and delivering products for end-users. The views and positions expressed by workshop participants also contributed to this chapter.

The workshop was structured in two main parts. The first part, *setting the agenda*, determined the state of affairs in social impact assessment in security research with a breakout/brainstorming session: what are current trends in SIA, what kind of approaches have been tried out, what are the lessons learnt from early attempts to implement SIA in security research? In the second phase, *taking SIA in security research to a new level*, we presented an overview of innovative and deliberative good practices / methodologies for social impact assessment both in security research and other research domains that has been developed drawing on literature reviews and a workshop on transferability of SIA approaches from other research domains

⁷ These were discussed at the first workshop in in September 2013 at King’s College London.

(Deliverable 1.2). In the final session, we asked the experts to identify key requirements for the fine-tuning of the ASSERT methodologies and strategy, with a focus the research phase, best practices and lessons learnt.

The results of the workshop contributed to:

- The identification and specification of end user needs and requirements for the development of a security impact assessment tool.
- An overview of best practices of SIA for different phases: research programme planning, evaluating proposals, funding and implementing research programmes, and implementing research projects.
- An overview of ‘drivers’ and ‘spoilers’ for transferring SIA approaches into the security research domain.
- The formulation of recommendations for further enhancing impact assessment approaches.

3.1 ASSERT TUB workshop Day 1

Sessions on existing approaches of SIA, current trends, and lessons learnt

At the beginning of the workshop, the invited experts presented their perspectives and experiences on existing approaches in SIA, current trends, and lessons learnt from their own work and practice.

A representative of the Austrian Ministry of Transport, Innovation and Technology talked about the KIRAS Security Research programme (kiras.at/kontakt/). KIRAS consists of three main pillars: economic aspects, security policy, and socio-economic aspects. The understanding of security underpinning the programme is an inclusive one. It aims at facilitating solutions that improve both liberty and privacy, and that at the same time link Austrian security research into European programmes for research and innovation. It also employs an integrative research approach that does not treat technology as the answer to everything. As Dr Hammer specified, such an approach is feasible in Austria, because the country lacks the famous military-industrial complex, and is characterised by the absence of large commercial enterprises in the security domain. Most commercial actors in the security domain in Austria are small and medium-size enterprises (SME). It is a requirement of the programme call that all projects include HSC (humanities, social sciences and cultural studies) and end users (this is an eligibility criterion). Specifically, KIRAS has five main goals: to improve measures of objective and subjective security; to generate knowledge necessary for the achievement of Austrian security policy goals; to facilitate the development of security relevant technology leaps; to aid the growth of the security industry; and to help to achieve excellence in the area of security research. The national steering committee consists of all ministries and stake holders relevant for security research. The ministry of Transport, Innovation and Technology is the programme owner and funding authority of KIRAS.

A REA representative outlined the role of societal impact assessments within the new Horizon 2020 (hereinafter: H2020) programme. Questions about societal impact will be part of standard proposals (in the form of a narrative self-assessment and yes/no questions, plus reference to relevant pages in the proposal). In the Q&A following Dr Müller's talk, the question was raised from the audience whether an unintended consequence of this development could be that security companies will stop wanting to come on board as project partners because they are afraid that the inclusion of SIA (and the social science aspects included in the project) may slow them down. A good response to this concern, perhaps, is a reference to the experience of grant programmes in the UK and at the European level, where the inclusion of ethics and social science aspects was considered a nuisance by many life science and industry partners initially, while many of them now see the added value that the inclusion of these aspects brings to a project.

A senior researcher from the University of Bergen presented EPINET (www.epinet.no), an FP7-funded project exploring the impacts of science and technology on society and the environment from different disciplinary, conceptual, and practical perspectives. Instead of assessing the impact of these technologies at a hypothetical level or in the abstract, assessments take place in practice. They include, from the very beginning, the people who projects envisage as users, as well as policy makers and technological innovators. A result is that 'as soon as you start to engage with these people, things are getting messy - you don't know who is doing what, and everybody is doing a bit of everything'. But there are clear benefits of bringing together actors that normally do not speak to each other.

A representative of the Technology Foundation, Berlin, argued that one of the challenges in the security domain is that the pool of end users includes potentially everybody. In contrast to technology development in the medical domain, where a knee joint replacement, for example, has a relatively clearly delineated group of potential users, fields such as airport security has the general population as their users. The meaningful engagement of end users thus becomes an issue: who do you engage, and how do you ensure that they do not drop out? Technology developers in particular are at high risk of leaving the SIA process; they may be afraid of bad press as a result of attention being drawn to problematic aspects of a project. Moreover, SIAs are seen to have tangible consequences such as slowing down the innovation process, putting people on a list of 'suspects'. The introduction of biometric controls at Frankfurt Airport, for example, was completed after years of testing and adapting the technologies and processes. Moreover, 'perceived' impacts are not clearly separable from 'real' impacts; a merely 'perceived' impact can have 'real' consequences. In the ensuing discussion Dr Weigmann referred to a participative assessment project called *Technology Workshops* that he organised for the new airport in Berlin.⁸ He said that the process, including closed and public sessions, led to a better informed decision making process and to a better acceptance of new technologies by employees.

⁸ The airport's website is currently available in German only: <http://ber.berlin-airport.de> (accessed 2 March 2014).

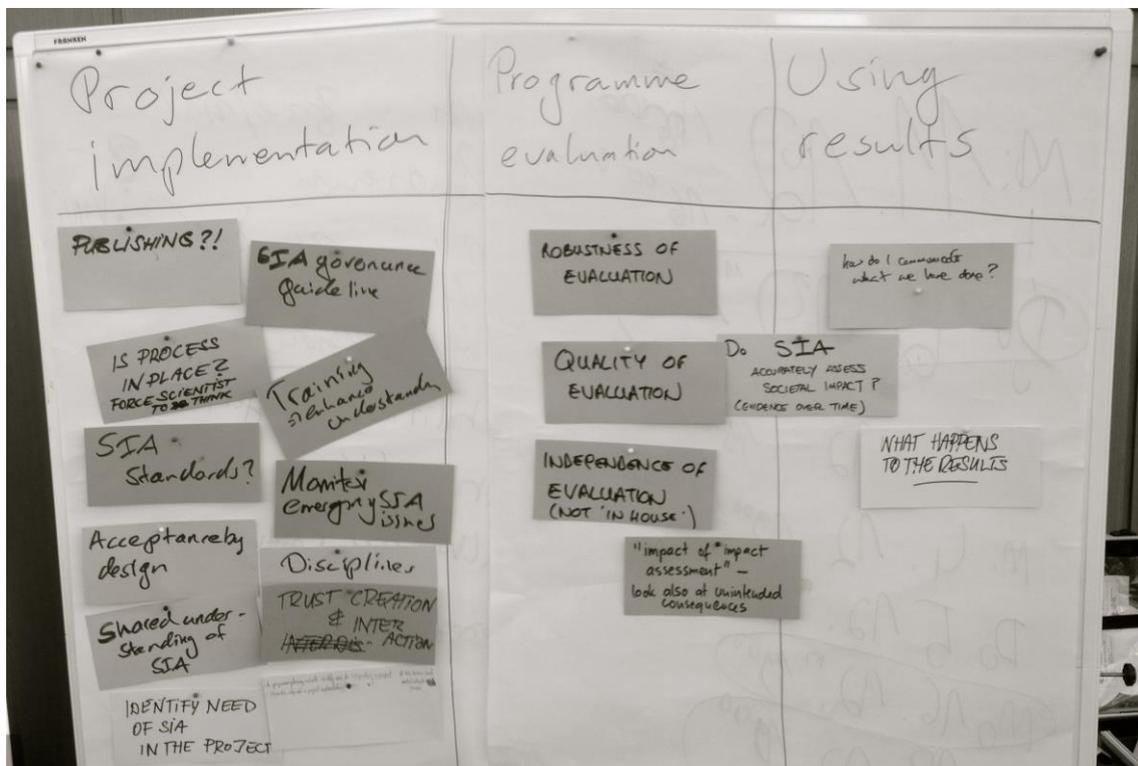
consultations in connection with, and evaluations of earlier programmes. Participants at our workshop argued that civil society should be better represented in this phase in order to give societal perspectives more weight. Furthermore, most participants were strongly in favour of increasing the public accountability of the decision making process pertaining to the content and focus of research and innovation programmes nationally and supranationally. Several experts reported that the often decisive influence that political considerations had on funding programmes, often exercised at the final preparation stages leading up to the publication of the call, frustrates attempts to increase participation and accountability in the programme planning phase. A more clearly and transparently structured process of programme planning, it was felt, would increase the democratic character of civil security research (and research more generally). Increasing transparency and introducing a more structured approach was also seen as necessary against the backdrop of growing overlaps between military/ and civil security industries. As one of the participants argued, the military-industrial complex has been replaced by the security-industrial complex, raising crucial issues of dual use.

It was suggested also that discussions about societal *needs*, instead of societal *impact*, would help to address problems resulting from unduly narrow and formulaic definitions of security. The latter favors an 'elite approach' to defining security, in the sense that security agencies define threats, and there is hardly any chance to validate them because the knowledge needed for validation is not accessible to anybody outside of the security agency domain. This, in turn, leads to a tendency to define security as a set of threats that can be countered with technologies in the programme planning phase. This narrow definition as security as a set of threats in need of a technological fix then determines the questions that are being asked during the planning phase: it is more about technologies than about societies who are supposed to benefit from those technologies. The concept of societal security can support the introduction of a broader and more inclusive understanding of security into the programme planning phase.

On a more practical level, it became clear during our discussions that the programme planning phase is where the greatest opportunity to change the character and content of research programmes lies. In order to seize this opportunity, participants suggested to include a SIA screening or threshold analysis procedure in this early phase to identify topics and calls that are considered critical in terms of their societal impact at an early stage. A decision would then be made to either stop activities in a research area, or to highlight the research areas for their societal impact sensitivity. Such 'highlighted' programmes or topics could then undergo a deeper SIA as a mandatory step of the procedure, and/or they could be required to define criteria that lead to the abortion of projects if met. In terms of transparency, some participants suggested to increase lobbying activities that aim at increasing public awareness of the societal impact of security research. This would contribute to both increasing the pressure for a more thorough consideration of societal impacts and to increase the understanding for the incentives that can result from SIAs for research programmes.

3.2.2 Project Evaluation

The evaluation of projects is a highly bureaucratic phase of the R&D process, and the vast majority of participants felt uncomfortable with suggestions to increase the administrative burden in this phase. Suggestions to increase the relevance of SIA in this phase, it was felt, should primarily aim at amending and increasing the efficiency of existing procedures. For example, very little information about the impact of the ethics screening procedures on research projects is available to the public. An evaluation of the nature of changes to project design and project implementation resulting from ethics screenings would provide for a better understanding of the merits and flaws of the existing ethics procedure. And more transparency during the ethics screening would facilitate the development of best practices. Some participants also suggested SIA training for ethics evaluators, as societal impact is a much wider remit than ethics.



Picture 2: Workshop results for R&D phase 3 to 5 [photo taken by authors]

Accountability was another issue raised by the participants when the SIA table for FP7 proposal templates (see Annex 5) was discussed. While the overall structure of the table, and especially the combination of tick-boxes with qualitative information, has found a favourable reception, the impact of the table on the evaluation process is unclear to most participants. Especially methods that combine tick boxes with narrative answers were considered very helpful, because they disclose a lot about how people go about thinking about ethics. It appears that while the table *can* have an impact on evaluations, this is not always the case. This leaves both proposers and evaluators in a limbo, possibly reducing the positive effects that the table could have on proposals and evaluations. It was therefore suggested by the participants that the SIA table should be made an integral part of the project proposal evaluation, whereby proposers should be asked to comment briefly on each phase and aspect. Participants in this discussion also

mentioned that at the proposal evaluation stage, efforts should not only focus on whether societal impacts have been ‘described’, but on whether there is any evidence that project proposers have a sense of an ongoing exploration of societal impacts throughout the project.

3.2.3 Project Implementation

Together with the programme planning phase, the project implementation phase was seen by participants as an important phase where SIA could play an important role. This has implications for who should be doing SIAs. In the programme planning phase, policy makers, scientists and academics as well as civil society representatives need to be included into SIA processes. However, it is likely that policy makers will have a lead here. In the project implementation phase, in contrast, it is scientists and academics who are responsible for developing and implementing SIA plans for ongoing projects. Participants felt that the project planning and implementation phase needs to be an iterative process, starting with proposal writing. It is crucial to highlight that the role of science administrators in carrying out SIAs was considered of limited relevance here because the initial plan for SIA needs to be provided by those who will actually be doing the research.

One issue that the ASSERT consortium took very seriously was the demand for SIA trainings for scientists. Intense discussions took place about the German and Austrian national approaches to mandatorily include experts from the humanities and social sciences (HSC) in security research projects. Some participants said that they observed a change in the overall culture of planning and carrying out security research projects as a result of the mandatory inclusion of HSCs, towards a greater acknowledgement of the societal dimensions of security research to the benefit of all partners. That the exact role of HSCs in the process, however, inevitably needs to be determined from case to case enables consortia to (mis-)use them as merely a ‘fig leaf’. In the spirit of the best practice criteria it will be impossible for SIA planners in most cases to deliver a pre-determined outcome for SIA planning, but it will be possible to train SIA planners and implementers in the relevance of good practice criteria. During the workshop, it was suggested that any SIA plan should include the following:

- a SIA governance guideline;
- a plan for the analysis and monitoring of emerging SIA issues;
- a shared understanding of (societal) security and the societal impact;
- mechanisms for the creation of trust;
- plans for the publication of the outcome of the SIA process;
- plans for regular interactions between SIA stakeholders.

Participants at the workshop were in disagreement about whether or not acceptance for a project and/or technology through a SIA plan could be increased, and whether this should even be seen as a goal to strive for. Some argued that this could be a major incentive for some actors involved in the research project, while others said that this would undermine the overall purpose of SIA processes.

3.2.4 Programme Evaluation

For the evaluation phase, participants demanded an emphasis on robustness in the sense that evaluations would need to have consequences. Some participants felt frustrated by what they perceive as a lack of political will to act on the results of security research programme evaluations. This was combined with the perception of a tendency to frame critical issues as a matter of programme administration rather than planning. Other participants felt that project evaluations would improve if more independent evaluators participated. The latter would also enable a stronger focus of evaluations on unintended consequences, which to date are almost completely ignored.

3.2.5 Exploiting research results

The extension of SIA plans to the phase of disseminating and exploiting project results was described as a very pressing issue. It was suggested to introduce a separate section into the SIA plan that was dedicated to the use of projects results after the end of the project. In that section, project participants (and/or those in charge of SIA within the project) should be asked to specify actions and measures that aim to ensure that the project results cannot be used in ways that undermine the envisioned societal impacts or create unintended societal impacts.

The following table presents an overview of how good practice criteria that are informed by the lessons learned at our workshops map against each phase according to the workshop results.

Good practice criterion	Programme planning	Evaluation	Programme Implementation	Project Implementation	Exploiting research results
Change	High possibility for change	Change following pre-determined criteria	Small possibility for change	Change following pre-determined criteria	High risk for unintended use of results
Participation	Good possibility for very broad participation	Small possibility for broad participation	Small possibility for broad participation	Good possibility for relatively broad participation	Difficult to determine
Flexibility	Very high flexibility	High flexibility in terms of deterring or enhancing projects	Flexibility according to criteria set in the planning phase	Flexibility according to the SIA plan	Very high flexibility

[table continues on the next page]

Iteration	Iteration in terms of learning from past experiences needed	Iteration in terms of possible recurring evaluations of SIA critical projects	Iteration mainly in terms of organisational learning	Iteration very important throughout the project	Difficult to determine
Administrative Burden	Highest possibility to increase administrative burden for democratic decision making	Very small possibility for an increase of the administrative burden	Very small possibility for an increase of the administrative burden	Very small possibility for an increase of the administrative burden	n/a
Transparency	Very good possibility for high transparency	Limited chances for full transparency due to privacy concerns	Limited chances for full transparency due to privacy concerns	Very good possibility for high transparency	Probably high administrative burden for transparency in this phase, needs monitoring
Limitations / Scope	Very high need for a clear statement of the scope of the SIA process.	Very high need for a clear statement of the scope of the SIA process.	Very high need for a clear statement of the scope of the SIA process.	Very high need for a clear statement of the scope of the SIA process.	Very high need for a clear statement of the scope of the SIA process.
Societal Security	Very high need for a clear definition of societal security	Very high need for a clear definition of societal security	Very high need for a clear definition of societal security	Very high need for a clear definition of societal security	Very high need for a clear definition of societal security
Societal Impact	Very high need for a clear definition of the societal impact	Very high need for a clear definition of the societal impact	Very high need for a clear definition of the societal impact	Very high need for a clear definition of the societal impact	Very high need for a clear definition of the societal impact
Knowledge Type	Knowledge for decision making	Knowledge for decision making	Knowledge for management and administration	Knowledge for project management and planning of research activities	n/a

4. The ASSERT Masterclass

4.1 *The Masterclass concept*

The ASSERT Masterclass was developed and launched by the members of the ASSERT consortium. The idea behind the Masterclass was to provide a structured learning environment for scientists, academics, administrators, evaluators and policy makers that increases their capacity to plan and to manage SIA in the security research domain. The Masterclass was first ‘trialled’ on 20 invited participants in early February 2014 in Stirling, Scotland.

The Masterclass was structured in two main parts. In the first part, background information about SIA concepts and methodologies – many of which were addressed in Deliverable 1.2 – were presented and discussed. The learning outcome of the first session was a good understanding of the concept of societal impact assessment (SIA), of the core underlying concepts and theoretical approaches, the different methodologies used to deliver SIA, as well as of the perceived benefits and potential barriers to successful SIA. In the second session, a structured guidance for SIA (developed by the colleagues at Trilateral Research and Consulting) was presented. The learning outcome of this session was a good understanding of how to put an SIA into practice and of how to construct an SIA report, with an emphasis on ‘best practice’ criteria. This session also provided insights into the possible organisational and structural ramifications of a SIA, and that SIA should not be considered as an ‘isolated’ process without repercussions on project design. A third session aimed to share experience from doing SIAs in the context of public transport. The learning outcome of this session was a good understanding of how an SIA should be integrated with existing organisational procedures and how existing institutional practices shape the development of an SIA. In this respect, this session demonstrated how any security system needs to be understood in their broader organisational, political and social context. This session also identified critical success factors in the deployment of SIAs.

The second part of the Masterclass consisted of an interactive exercise where the participants broke up into three groups. They were given the instruction to develop a SIA plan for a project that has been simulated by the ASSERT consortium for the group exercise. Participants were asked to imagine that they are planning to submit a proposal based on the Horizon 2020 topic *FCT-2-2015. Forensic topic 2: Advanced easy to use in-situ forensic tools at the scene of crime*. They were told to be a part of the core group of the consortium and some preliminary ideas for the proposal have already been drafted. These include some ideas for potential consortium partners and potential Work Packages (see Annex IV).

Proposed Research Objective

The main objective of this proposal is to discuss and develop a portable hands-on, rapid forensic tool for DNA analysis to be used by law enforcement agency (LEA) field operatives in different contexts. The data produced using this portable device shall be applicable for different purposes within the realm of law enforcement and criminal justice.

After having received some training on SIAs in the first part of the Masterclass, the participants were then tasked to develop a SIA plan for this proposal/project, and to revise the overall structure of the proposal and consortium if necessary. All elements of the draft can be reworked and adapted, work packages and consortium partners can be added or deleted if necessary.

The groups were told that the expected outcome of the group exercise was to:

- Review and adjust (if necessary) the proposal and the consortium;
- Develop an appropriate SIA-plan, including a working plan and a description of the processes.

Finally, participants were asked to present the findings of the work in a short, 15 minutes presentation, focusing on:

- SIA procedures applicable in the project;
- Impact of SIA plan on the project design (design, process, consortium);
- The societal impacts that this project is likely to create;
- Produce a graphical representation displaying inter-relationships between the different work packages with special emphasis on SIA.

4.2 *The Masterclass Group Exercise Results*

The Masterclass group exercise was kicked off by an introduction that set out the activities to be undertaken during the ASSERT Masterclass SIA Group Exercise, including: proposed timeframes, key activities, and expected outputs. The groups were then introduced to the task and the schedule for the afternoon. Groups were asked to look at the rough draft of the Work packages and ideas for their project, develop an SIA plan and consider the organisation of the project, the consortium and scope that the SIA would have, and deliver a 15minute overview of the outcome of their discussions to the plenary. The main learning objective of the exercise was that participants should obtain a good understanding of how to design an SIA for a European security research project proposal.

The ASSERT consortium members left it to the groups how they wanted to structure their discussions and tried not to interfere in the group work but to merely observe the discussions and to provide assistance when needed. The following section summarises the notes of group work results presentations.

Group 1:

Group 1 started its work with revisiting the consortium and the work package composition. The group then decided to add a data protection authority to the

consortium. The group also considered including an external ethics advisor to the group, but no decision was made here. Work package 3 (societal effects of in-situ technologies) was restructured so as to include a process to identify SIA stakeholders step by step. The process envisaged by the group started with a workshop for consortium members and then moved on to engaging stakeholders and identified further stakeholders. The group emphasised that there should be close cooperation with a consultancy that should feed SIA findings into each WP. The group found that a proper validation of the new technologies was crucial for the consideration of the societal impacts. They identified a number of SIA issues by carrying out a preliminary impact assessment, following the SIA guidance provided by TRI. The results of this were fed into WP3. The group identified some overlap of societal needs and benefits of the project: cost reductions, low level of error, stronger convictions and transparency. Both dissemination and SIA were understood by the group as activities that should accompany the project for its entire duration (and possibly beyond) and should feed back into the work packages. The group then considered the budgetary implications of SIA (both the cost of the SIA itself, as well as the implications for the rest of the budget that findings from SIA may have), arguing that the marketing budget should be higher than the management budget to ensure the evaluations are fed back to the operational aspect of the project.

Group 2:

Group 2 set off with a stocktaking exercise to map societal issues raised by the proposal. After that the consortium and structure of proposal were revisited. The group spent considerable time discussing legal systems, standards and jurisdiction, which led to a change in the focus of the project. The project was relabelled as a pilot study of five countries as a result, and the proposal was amended to embed the SIA process in the first three work packages. The composition and sequence of work packages were changed to create a feedback loop to WP4 (“Technical Problems”), in order to repeat the SIA process twice. The technological development tasks were estimated to raise new issues and to feed back into the SIA process. The group revised the dissemination plan – they expected it to be difficult to establish a dissemination strategy for 28 countries. Part of the dissemination WP became therefore the development of an implementation template that all countries could adopt and amend to suit their own specific needs. The group also found that the SIA guidance could be embedded in WPs 1-3. Consultation with the most important stakeholders was considered crucial here: harvesting expert knowledge; an advisory board that ‘balances the narratives’; identifying important stakeholders, especially NGOs that deal with offenders, penal reform, resettlement of offenders; engage regulators from the EU member states. The group also envisaged installing an active advisory group to organise regular consultative meetings with all relevant stakeholders.

Group 3:

Like the other groups, Group 3 started its work with a discussion of the scope of the project and the consortium. They decided not to change focus of the project. Planning the SIA process, the group allocated some 5 per cent of the budget towards SIA activities and appointed an academic partner of the project as leader of SIA-related

tasks. Regarding the structure of WPs, WP3 (“Societal Effects of in-situ Technologies”) was redesigned to be a work package on legal and ethical issues. The group emphasised that the SIA process should be an integral part of each WP. SIA should also entail a public dialogue and be as transparent as possible. The group also envisaged the recruitment of the stakeholders of the SIA process to take place in three steps:

1. open call for stakeholder engagement;
2. an ongoing call for participation across the project;
3. active recruitment - consider stakeholders we want / believe need to be included;

The use of social media was considered crucial for constant awareness-raising for the SIA, and for encouraging participation. Different methods were discussed for organising the SIA process, and focus groups were considered to be particularly helpful. Finally, the group discussed whether or not there should be the possibility to abort the project when certain criteria are fulfilled. The group members then suggested and agreed on a ‘stop and go approach’, with decisions at each stage as to whether or not the project would proceed, or the development would be halted.

While no systematic feedback was given to the participants after the group work presentations, a look at the group work along the good practice criteria allows identifying challenges in implementing them. In future Masterclasses we will aim to provide structured feedback to groups, drawing upon the observations and notes of the observers/moderators in each group (who would be members of the ASSERT consortium):

Good practice criterion	Group 1	Group 2	Group 3
Change	All groups considered the consortium composition and the work plan as objects of change. This shows the difficulty to amend the objectives in pre-determined calls		
Participation	A step-by-step approach for identifying stakeholders was envisaged	Compared to the other groups, a rather conventional mode for participation was envisaged, this group saw a major role for the advisory board to ‘balance narratives’	A step-by-step approach for identifying stakeholders was envisaged, including an ongoing call for invitations to participate
Flexibility	Flexibility was primarily understood in terms of iterative processes.	Flexibility was primarily understood in terms of iterative processes.	This group considered the highest level of flexibility by discussing ‘breaking points’ that could lead to the abortion of the projects
Iteration	All groups considered iteration as crucial, they understood it as the constant feedback of the SIA results into the R&D process. This highlights the difficulty to clearly separate the R&D process from SIA processes.		
Administrative Burden	The administrative burden was primarily considered as a budget issue by all three groups		

[Table continued on next page]

Transparency	The issue of transparency was primarily understood as a way of communicating what is being done in the project to consider societal impacts	This group considered transparency as an issue of 'marketing' the project and product	The issue of transparency was primarily understood as a way of communicating what is being done in the project to consider societal impacts. An emphasis was put on the use of social media to create transparency
Limitations	This group saw the limitations of the SIA within the objectives of the project	This group saw the limitations of the SIA within the objectives of the project	This group saw the limitations of the SIA as very wide by considering to abort the project if certain conditions are met
Societal Security	Societal security was not discussed in the presentations of all three groups. This is probably due to time restraints of the presentations, as the observers of the group work confirmed that societal security issues have been discussed in the work sessions. This result hints at the need to better operationalise societal security for SIA		
Societal Impact	Interestingly, all three groups focussed their presentations on technical and methodological aspects of SIA. Societal impact was not discussed in detail. This hints at a conceptual problem to plan a process for issues that are not yet known but can only be imagined.		
Knowledge Type	All three groups considered the knowledge procuded by SIA as both important for decision making and managing as well as for the R&D process itself.		

The discussion following the group work presentations

The ensuing discussion revolved around the question of how SIA changes the ways that security research on the European level is being done. Technically, it is unclear whether or not the European Commission expects H2020 project proposers to include a work package dedicated to SIA. Another question that created a lot of discussion was what kind of budget should be considered reasonable for SIA. Consultative processes are costly endeavours, and can increase the overall budget for research projects considerably. Furthermore, the discussion revealed difficulties in clearly distinguishing SIA activities from R&D activities. It was felt that even in technological development, SIA should be an integral part of the research process. It became clear in the discussion that the overall concepts for SIAs and the methods to implement SIAs largely depend on social science expertise.

Whether or not the possibility to abort projects should be an option arising from SIA was a contested issue in the discussion. Participants in favour of this option argued that it could lead to a better consideration of 'break points' for R&D projects. It was argued that the insight that a particular project was unfeasible, or unacceptable from a societal impact standpoint, was an important potential result from SIA whose documentation should be supported rather than suppressed. Documenting unsuccessful paths, they argued, could help to save large amounts of research money later on. Making the definition of break points mandatory at least for projects and programmes that have been labelled as critical in a threshold analysis could become an issue for future

lobbying activities. Some researchers in the security sector are considering the launch of a lobby group to promote the societal security concept and SIAs.

The detailed prescription of the outcome of security research calls was widely perceived as an obstacle for SIA because it limits the flexibility that is often needed in research projects. One participant called for an understanding of societal impacts as a creative challenge. Such an understanding could be promoted by conducting SIAs of funding calls before they are published – an idea that was raised also during the Berlin workshop. Some participants were against this, fearing that there should be as many possibilities as possible to do research projects, especially when there are SIA procedures in place to manage the societal impacts, and that the scope of acceptable research should not be limited beforehand. Viewed from this perspective, it became clear that SIA bears the danger of restricting research in ways that are seen as counterproductive by some actors.

On a methodological level, one participant said that what had been missing in the group work presentations had been the role of the mass media in the promotion of SIA. Another issue that had not been addressed was the inclusion of vulnerable groups as stakeholders in SIA processes. A participant seconded that if vulnerable groups are included into stakeholder engagement, it alters the ways that ethical reviews are being done (i.e. in some countries the inclusion of vulnerable groups in the project in any capacity would render the ethics approval much more difficult). This discussion then turned towards the type of consultation that should be underlying SIAs. While there is a possibility of spoilers or ‘professional victims’ to troll SIA processes, a participant emphasised that consultations are not just about speaking to people but about giving them a voice and showing them how they can change the ways that projects are being implemented.

At the end of the session discussions focused on the degree to which certain elements of SIA – documents, standards, procedures – should be made a mandatory requirement. One participant was sceptical towards the inclusion of any kind of mandatory measures due to questionable enforceability in this context; the participant pointed out that there already are a lot of guidance documents and people often do not read them. Another participant emphasised that the failure to acknowledge SIA as an evaluation criterion might have the effect that proposals with good SIA plans might appear too complicated to deliver. Many participants supported the idea of scoring SIA plans in the evaluation process. This would, however, require making explicit and very clear what exactly SIA were expected to deliver in future research calls.

Participants also discussed the merits and limits of a one-size-fits-all approach towards SIA. They widely agreed that there is place for both ‘mini’ and ‘maxi’ SIAs, depending on the phase of the project, and depending on the societal issues at stake. A flexible approach that is informed by good practice criteria without being overly formulaic was seen as the best approach towards giving SIAs a role in the RRI framework.

4.3 Lessons learnt from the Masterclass

This section draws on the final discussion of the Masterclass and on the results of a formal feedback questionnaire that was turned in by 16 participants. Reflecting the learning outcomes, the participants felt that:

- SIA is becoming increasingly important and that it will be a crucial issue in the future;
- SIA is a political process;
- Because of its political nature, there is no one size fits all approach to SIA;
- It seems reasonable to assume that in five years' time SIA will be built in to research proposals, in the same way that ethical reviews are today. There is now an opportunity now to shape how SIA will be done in the future;
- In absence of a detailed model, it is important to understand the critical success factors – pitfalls, barriers to delivery of a SIA.

Participants at our first Masterclass found that the conceptual introductions and the presentation of the guidance paper were useful for the preparation of the group work. They also appreciated the group learning exercise. While the participants emphasised that the social activities contributed to the successful learning experience, they also said that it would have been good to create a more heterogeneous group, including policy makers and technology developers. Other participants said that the group work would have benefitted from group compositions that resembled the composition of real-world project consortia.

A crucial challenge for the refinement of the Masterclass-concept lies in the partly contradictory requirements that are structurally embedded in the SIA concept. On the one hand, there is a strong demand for step-by-step guidance and instructions. On the other hand, the participants acknowledged the difficulties of blueprints and expressed a strong demand for discussions, reflection and learning. One way to deal with this contradiction could be to include a session in the Masterclass format where learning from a practice case takes place. This would include the presentation and discussion of a 'how-to' recipe on the conceptual level, and how this recipe can then be introduced in practice. This session should be followed by sufficient time for discussion.

5. *Summary: Taking SIA in security research to a new level*

This Deliverable set out to define good practice criteria for SIAs in security research, and demonstrated how the criteria can be used to plan and to assess SIAs in different phases of the R&D process and in the project implementation phase in particular. These good practice criteria concern the potential of SIA processes to reframe the project, the depth and level of consultation and participation, the flexibility, transparency and iterative nature of the process, the proportionality of the administrative costs incurred by SIA, and the clarity about the goals, limitations, and about the kind of knowledge produced by a specific SIA process (see also Appendix 1).

Furthermore, the report introduced a format for SIA training (ASSERT Masterclass) and discussed ways to improve the format on the basis of feedback from participants of the first Masterclass in February 2014. A major challenge for these training events

continues to be striking the right balance between the demand for detailed step-by-step instructions and blueprints on the one hand, with the necessity to avoid an over-determination of the outcome and appearance of the SIA process on the other. This challenge results from the dealing with a process that is inevitably shaped by issues that cannot be anticipated beforehand.

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7. Annexes

Annex 1: The ASSERT Good Practice Criteria for Societal Impact Assessments

1. Has the SIA design the potential to reframe the project and R&D process?

- If yes, how open is the outcome of the process? What are the implications of this?

2. Is consultation being taken seriously?

- How can this be established (agency assessment)?

- Who is in the position to define what is important and less important?

- Are the roles and responsibilities clearly defined?

3. Is the process flexible?

- What level of flexibility is productive?

4. Is the process iterative?

- Where in the R&D process does SIA create an impact?

5. Is the administrative burden reasonable?

- How can this be established?

6. Is the process transparent?

- Are there situations where transparency cannot or should not be achieved?

7. Are the limitations of the process explicitly stated?

- Resources, access to knowledge, temporal scope, excluded groups (ignorance)

- Communication but not marketing of the project

8. Is the prevalent understanding of societal security in a given project clearly defined?

- How does the project enhance security?

- Whose security?

9. Is societal impact clearly defined?

- Impacts (benefits, unintended consequences, harm) on individuals, households and enterprises and communities at each level

10. What kind of knowledge is being produced in the SIA procedure?

- Scientific Knowledge

- Knowledge for political and societal decision making

- Knowledge about risk

- Why is it important to define beforehand what knowledge is at stake?

Annex 2: Societal Dimensions in Eurobarometer:

- Science and Tech make life easier, more comfortable and healthier
- Science and Faith
- Creates more opportunities for future generations
- Speed of change in science and technology
- Science and Technology can threaten human rights
- Most think that fundamental rights and moral principles should not be violated to make a new scientific or technological discovery
- A large majority agree that the EU should promote the worldwide respect of European ethical principles
- More than three quarters of respondents agree the EU should take measures to address the ethical risk of new technologies
- Most agree that respecting ethics and rights guarantees research and innovation will meet citizens' expectations
- A large majority think there should be mandatory ethics training for researchers, and an oath taken to respect ethical principles and legislation
- At least eight in ten agree that scientific experts should be transparent about their sources of funding
- Most agree that an interest in science improves young people's job prospects, culture, and their ability to act as well-informed citizens
- A large majority think the needs of men and women should have equal weight in scientific research
- The majority agree that the results of publicly funded research should be available online for free

Annex 3: Agency Assessment Guidance

Grid to help to assess the agency of public participants in impact assessment projects. Adapted from Prainsack (2014).

Coordination: Who has influence in:

1. Agenda setting
2. Determining the terms of the execution of the idea/procedural aspects
3. Deciding what results are (and what 'good' results are)
4. Deciding what will be done with results
5. Deciding on intellectual property questions

Participation

6. Who participates (demographic and social parameters of those who participate)? Why, and how do they participate?
7. How much, and what kind of, training, skill, or expertise is required to participate in this project?
8. Are there cultural, institutional, or other differences in perception and framing of core issues and stakes?

Community

9. What forms of community pre-exist this project, if any? Which new communities does the project facilitate or give rise to? What is the constitutive factor for the feeling of belonging on the side of the participants?

Evaluation:

10. How and by whom is it decided what good outcomes are?
11. What happens to the results of these evaluations?

Openness and information symmetry:

12. Do participants in the project have access to the core data about the project?
13. Can participants in the project edit/change the core datasets?
14. Is the contribution of participants adequately acknowledged in published materials, and policy briefing documents, etc?
15. Are datasets made publicly accessible (open source/open access)?
16. Are main findings made publicly accessible (open source/open access)? Are assessment reports made publicly accessible?

Entrepreneurship:

17. How is the assessment project funded?
18. What is the role of for-profit entities in this assessment project? Are these small, medium-sized, or large entities, and where are they located?
19. How are for-profit and other interests aligned in this assessment project (and/or do they conflict, and where?)

Annex 4: Call topic, Work packages, tasks, and consortium for the masterclass group exercise

Call Topic: FCT-2-2015. Forensic topic 2: Advanced easy to use in-situ forensic tools at the scene of crime

Specific challenge:

Rapid developments in technologies and communication in various fields go hand in hand with new opportunities for forensic science to investigate more and a greater variety of traces, to extract more information from less material, quicker than ever before, and to keep the standards of forensic science in Europe at a high level regarding juridical and technological questions. Meanwhile, organised crime and criminals do not limit themselves to regional or national borders. Their crimes are thus leaving traces in multiple countries. Cross border access to evidence has become an absolute necessity for Law Enforcement Agencies (LEA) and judicial authorities.

Evidence gathering, collection and exchange at EU level should be usable from the field to the judge, independently of where the crimes have taken place. Rapid developments in technologies and communications in various fields go hand in hand with new opportunities for forensic science.

Proposals for this topic should take into account the existing EU and national projects in this field, such as the Council Conclusions on the vision for European Forensic Science 2020 which foresee the creation of a European Forensic Science Area and the development of forensic science infrastructure in Europe."

Scope:

Proposals for this topic should focus on the development methodologies of tools and EU-wide standards for the secure storage, access and the exchange of forensic data supporting evidence.

A platform integrating different techniques should be proposed in order to achieve better strategies for gathering evidence in the field of forensic research. Relying on knowledge-based fields such as artificial intelligence, machine learning, different procedures, tools and algorithm should be developed within this platform, based on the standard outlined above.

Specific areas of research could be:

- The establishment of a EU-wide database of new synthetic drugs and drug precursors (detection protocols and analysis methodologies).
- Other types of pan-EU databases - like for instance soils, ballistic data, breath analysis, DNA, fingerprints, etc.

In addition due to the variability and the wide range of crime types, procedures or methodologies should be developed or adapted to the specific crime features. Moreover, horizontal strategies could be proposed for profiling crimes or offenders and matching and predicting different type of crimes. This should lead to the establishment of a catalogue of these procedures or methodologies.

Where necessary new technologies should be developed for sampling, analysing, evaluating, interpreting and recording forensic evidence, with a view to achieve solid and court-proof forensic evidence that can be used during legal prosecution.

The use of the most advanced information technologies should allow improving and upgrading the current forensic systems in the European police institutions. The scope of the proposed tool should involve law enforcement bodies from the design phase to the prototyping and test phase.

Proposals addressing this topic may involve the use of classified background information (EU or national) or the production of security sensitive results. As such, certain project deliverables may require security classification. The final decision on the classification of projects is subject to the security evaluation. The Commission considers that proposals requesting a contribution from the EU of between €9m and €12m would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact:

Projects under this topic should lead to the development of novel easy to use in-situ forensic tools, customised to the specific needs of EU LEA. Better profiling of crimes and offenders. Quicker matching of different types of crime. Shorter court cases due to the availability of more solid court proof forensic evidence. For industry better understanding of modern operational LEA requirements, thus increasing their competitiveness. Considerable improvement in the field of public security and improved trust of the citizen in the work of police forces in the EU.

Type of action: Innovation Actions

Proposed Work Packages and Tasks

WP 4: Technical Problems (Soft & Hardware)

Task 4.1 Draft technical design specifications for the tool to be developed.

Task 4.2 Screen emerging technologies in the field of forensic DNA data collection.

Task 4.3 Assess the potential of existing technical solutions for improving profiling capabilities.

Task 4.4 Develop a solution for high data quality to prevent degradation.

Task 4.5 Assess the potential for automated data exchange processes of in situ tools.

WP 5: Organisational and Accreditation Problems

Task 5.1 Draft functional specifications for the expertise and competencies necessary to work with the in situ tool.

Task 5.2 Examine the demand for training of law enforcement personnel.

WP 6: Product specifications and building a prototype

Task 6.1 Construct a prototype.

Task 6.2 Test the prototype in a lab setting.

Task 6.3 Implement a test run in different national controlled real world law enforcement settings.

WP 7: Project Management

Task 7.1 Project management meetings

Task 7.2 Coordination of the project

WP 8: Dissemination

Task 8.1 Dissemination Strategy (etc.)

Task 8.2 Etc, etc.

List of Consortium Partners

LEA representatives from 5 Member States (= Stakeholder/end-user)

Applied Biosystems Inc., SAP, (= Industry partners)

Europol, Eurojust (= Stakeholder/end-user)

Law Department from a University (e.g. VUB, LSTS) (= legal experts)

KPMG, Accenture Deloitte (= implementation experts)

Northumbria University Centre for Forensic Sciences (= scientific experts)

Annex 5: FP7 proposal template SIA table

Ensuring security research meets the needs of society	
Which documented societal security need(s) does the proposed research address?	
How will the research output meet these needs? How will this be demonstrated? How will the level of societal acceptance be assessed?	
What threats to society does the research address? (e.g. crime, terrorism, pandemic, natural and man-made disasters, etc.).	
How is the proposed research appropriate to address these threats?	
Ensuring security research benefits society	
What segment(s) of society will benefit from increased security as a result of the proposed research?	
How will society as a whole benefit from the proposed research?	
Are there other European societal values that are enhanced by the proposed research e.g. public accountability & transparency; strengthened community engagement, human dignity; good governance; social and territorial cohesion; sustainable development etc.	
Ensuring security research does not have negative impacts on society	
If implemented, how could the research have a negative impact on the rights and values enshrined in the Treaties (e.g. freedom of association, freedom of expression, protection of personal dignity, privacy and data protection etc.)?	

If implemented, how could the research impact disproportionately upon specific groups or unduly discriminate against them?	
What specific measures will be taken to ensure that the research outcomes comply with the European Charter of Fundamental Rights and to mitigate against any of the negative impacts described above?	