

Dual use in the EU Framework programme and SNSF perspective

Recent technological and geostrategic shifts have redirected European research policies and budget priorities, increasingly focusing on the dual use potential of research, including in programs traditionally limited to civilian applications, such as the EU Framework Programs. In view of this development, the EU has published a [white paper](#) presenting various options regarding the integration of dual use research into the multiannual framework. These three options consist of (1) following the current setting, with opportunities for spin-offs towards the military sector, (2) opening selected programme parts in FP 10 to technologies with dual-use potential, and (3) a dedicated instrument with a specific focus on R&D with dual use potential.

This paper is based on the SNSF's principles, as outlined in its international strategy, which include a global approach, academic values, multilateral cooperation and knowledge circulation and excellence. It summarises the SNSF's position in regard to the consultation. It provides in addition an outlook towards the SNSF's approach regarding this topic.

1 Introduction: Civilian Research in a Dual-Use Context

The world is confronted with a wide range of challenges, including the green and digital transition and shifting geopolitical dynamics. Particularly the latter suggests that a re-evaluation is called for concerning the relationship between civilian and military research in Europe. This also affects current debates concerning the next EU Framework Programme for Research Innovation (FP 10), and the extent to which military research can be integrated into its programming. The SNSF itself, as a key driver of research and innovation in Switzerland, funds exclusively civilian research, also in collaboration with European and global partners. The SNSF considers it critical that Horizon Europe and its successor programme FP 10 as the main research funding programme on European level continue to maximise the potential of civilian research even within the current geopolitical context. Preserving the civilian character of research allows the broadest possible involvement of all stakeholders and productive interactions between research and innovation, based on rapid innovation cycles. Limiting the potential of civilian research by explicitly incorporating military needs could pose an obstacle that might also hinder innovations in the security sector, as it would slow the down innovation and include new levels of complexity, also related to the concept of dual use.

A particular challenge with dual use research is related to the fact that there is not a specific definition of the concept of dual use research. It remains a vague term, as any civilian product could theoretically be used in military contexts. Therefore, when it comes to dual use research, it is not about whether something is dual-use or not, but rather about the risk of civilian research results being applied militarily, and the degree to which this would happen. This also ties into the broader context of research security and ethical use of research, i.e. research being used

for. for ethically problematic goals such as mass surveillance or autonomous weapons, or when research is used by actors who do not share common values and principles. In this sense, dealing with the risks of dual-use research requires the ability to understand and respond appropriately to the dual dimensions associated with certain research.

2 Dual use in the context of European Framework Programmes for research and innovation

The SNSF recommends caution when it comes to integrating dual use research into the EU Framework programmes. Designating call topics of the framework programme as dual use could defeat the purpose of tapping into a large reservoir of civil R&I., as it may affect and limit civilian research. However, the SNSF recognises that many results of civilian research, especially at a higher TRL (Technology Readiness Level), can also have potential beyond civilian use. Thus, it acknowledges the need to find synergies between the investment in civilian research and the increasing of defence capacities and know-how. The SNSF welcomes the European Commission's systematic approach to the role of dual use in framework programmes as described in the white paper, based on three possible options: (1) following the current setting with spin-off opportunities towards the military sector, (2) opening selected programme parts in FP 10 to technologies with dual use potential, and (3) a dedicated instrument with a specific focus on R&D with dual use potential.

Following the current setting with spin-off opportunities offers an effective method for harnessing dual-use technologies through the current framework. A mechanism for identifying research of potential military value could further mobilise funding and support for projects in critical areas, enhancing both civilian and defence capabilities. The aforementioned option 1 is based on one of the great strengths of the European framework program: the ability to identify and expand the potential of research with strong networking, and sustainable dynamics for participating research systems, even in targeted funding schemes. Systematic screening and resource provision that promote spin-offs can not only support defence efforts but also motivate researchers to identify potentially new forms of innovation and strengthen Europe's technological leadership in strategic areas like AI or space.

Meanwhile, opening selected programme parts for technology with dual use potential, as described in option 2, risks drawing the focus away from exclusively civilian applications in selected areas of the Horizon Europe follow-up programme and poses far-reaching challenges and raises concerns. While such a strategy would allow flexibility in funding strategically important technologies aimed at both civilian and non-civilian use, it raises fundamental questions about the direction of European research funding. The blurring of the current separation between civilian and military research could lead to a significant risk of a crowding out effect that would make the Framework programme partially blind to civilian purposes. This would undermine the current principle of European research funding, which places a strong emphasis on civilian applications and the resulting potential. Changing the focus to dual use research could favour research projects with lower level of innovativeness, societal relevance, and speed in the innovation process would have a comparative advantage. Furthermore, option 2 risks increasing complexity and bureaucracy in application and project execution related to the specificities of military research, deterring some civil actors, particularly SMEs without the capacities to be engaged in the civil and military sector in parallel. The need to identify and appropriately label dual use potentials could place additional requirements on researchers and institutions

without the necessary resources to meet these demands and lead to an additional comparative disadvantage for smaller institutions or the ones less experienced in the area of dual use.

Implementing option 2 would also lead to uncertainties in programme design and execution. Developing new guidelines and security systems and conditions and introducing complex protocols to deal with sensitive information increases the complexity of existing processes. This is likely to become a significant hurdle for European researchers and companies. Opening the framework programme for military research may also make collaboration with like-minded and associated partner countries more difficult as military research may be additionally restricted for security reasons, and they would be partly excluded from European programmes, weakening the whole European R&I system. This could lead to a loss of relevance of the programme as a funding scheme capable of enabling meaningful international collaboration in critical areas.

Having a dedicated fund for dual use research, as described in option 3, may add an additional instrument to an already complex program. It would however simplify the situation for researchers compared to Option 2, as dual use activities are concentrated in a dedicated fund and may not impact other areas of research. It is worth discussing the potential of such activities and how they can be attractive to researchers. A smaller pilot could serve as a testbed for this, exploring potential intentional and unintentional consequences. Given the diverse challenges the world faces, including the green and digital transition, it is important that such a fund does not come at the expense of civilian research, but would contribute additional funding to the already existing programs.

Based on these considerations, the SNSF recommends in case of the EU Framework exploring already existing measures to contribute to the need of military research and providing additional spinoff options, as described in option 1 in the white paper. While acknowledging the potential of option 3 to foster R&I in the military field, it recommends a critical evaluation, particularly related to budgetary constraints. The SNSF has major concerns that option 2 could significantly weaken the impact and innovativeness of the framework programme and be detrimental to military and civilian research and collaborations in Europe.

For the overall debate on including research with dual use potential in the framework programme, the SNSF calls on the decision-makers to ensure that the principles of ethical research and the underlying values of the European Research Area continues to be upheld. These include academic freedom, enabling sustainable and dynamic innovation in Europe based on democratic principles and human rights. It also reiterates that this freedom, combined with Europe's fundamental democratic values, must also be preserved in the current situation.

3 SNSF approach

As a central research funder in Switzerland, the SNSF is also obliged to adjust to the new importance of dual use research and support researchers in this regard. Therefore, it is also working on the relevant processes to fulfil this role while adhering to the principles of scientific integrity and academic freedom. It will be in this respect to provide researchers with sufficient information so that they can better understand the context in which they are active and are empowered to make decisions, for example, regarding the choosing of collaboration with partners in different parts of the world. At the same time, various questions arise about how researchers themselves can be supported, e.g. through advisory infrastructure. It is necessary to discuss which options the SNSF should choose in this context. For example, regarding the

question of the relevance of a national advisory body on research security to which dual use may also be included, and how this relates to other thematic issues, such as scientific integrity. It is also necessary to discuss to what extent a research funder like the SNSF should actively engage in evaluating research proposals dual-use risks, particularly in the review process, and make decisions based on the assessment of these risks. In principle and based on the global approach described in the international strategy, the SNSF is committed to promoting civilian research as a civilian actor. In this sense, the focus should be on raising awareness and advising researchers, but also ensuring that this civilian focus remains in place. The SNSF hereby recommends including a risk assessment statement on potential dual use of research by the applicant/s in funding submission processes, mainly as a means to raise awareness among researchers. Following the arguments described in the European Framework Programme concerning dual use, the SNSF considers it important to provide researchers with opportunities and raise awareness concerning spin-off activities to exploit the potential of military research. This should however not be at the expense of financial investment in civilian research. The SNSF is currently working with stakeholders in Switzerland and international partners to develop a comprehensive approach to the dual use area. It plans to include this question in developing a strategy on knowledge security, which can provide guidance on this strategic issue in the years to come.¹

¹ The SNSF is strongly involved in exchanges with partners at the European level, making use of its international network including Science Europe, the Association of major Research Funding and Research Performing organisations in Europe. The development of a strategy on knowledge security aims at developing a comprehensive and coordinated approach on a Swiss level.