

EARTO Answer to EC Consultation on Technologies with Dual-use Potential

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EARTO welcomes the increased attention for research and development involving technologies with dual-use potential, as described in the [European Commission White Paper COM\(2024\) 27 final](#) published last January 2024. EARTO Members have a wide range of expertise both in research in security and defence as well as in a very large range of technologies with dual-use potential.

EARTO fully acknowledges that EU security and resilience requires a whole of society approach and can not only depend on military capabilities. As rightly stated in the European Commission (EC) White Paper: *"The geopolitical context has equally shown that defence capabilities must be accompanied by strong measures on civil security to protect the EU's resilience, in particular to protect civilian critical infrastructures, deter border related security threats, restore essential services in times of crisis, and address the risks of social unrest following disinformation campaigns or cyber-attacks. As a result, increasing the EU's resilience is a priority for both defence and internal security needs."* If Europe wants to be more secure and resilient, more investment in dual-use technologies is needed, as the separation between purely civil and military technologies is hardly possible.

In this context, EARTO has since many years an active Working Group on Security and Defence Research which is composed of over 80 experts in these fields. These experts have been very active both in the security activities within the EU Framework Programmes (FPs) as well as in the new European Defence Fund (EDF). As such, EARTO feedback considers its members' experiences in both programmes.

The EC White paper offers three options for further consideration under current or future EU funding programmes as follows:

- Option 1: Going further based on the current set-up,
- Option 2: Remove the exclusive focus on civil applications in selected parts of the successor programme to Horizon Europe,
- Option 3: Create a dedicated instrument with a specific focus on R&D with dual-use potential.

When looking at the 3 options presented, EARTO members indicated that Option 3 did not seem appropriate. With the creation of various new EU programmes in the current MFF, beneficiaries such as RTOs are now facing a multitude of programmes, each with their own rules for participation. There is a need for creating a streamlined pathway from the research phase to close-to-market deployment across EU programmes and instruments. We should avoid creating again parallel programmes or instruments. Adding yet another specific instrument devoted to research with dual-use potential with its own budget, its own rules on the participation and dissemination of results, comitology/governance provisions, evaluation and eligibility criteria, consortia structure, etc. would only increase the EU landscape complexity. It would also require a very strict definition and boundary of "dual-use research and applications" upfront to decide whether research will be part of this new programme: this seems to be rather difficult with the risk of duplication of research efforts within each of the programmes.

This leaves option 1 and option 2 for further discussion. Here, EARTO experts were clear in their views: there are too many unknowns and questions to be able today to make any choice between the two options left. Accordingly, this paper will not make a further choice but summarises the questions at hand that should be further looked at before going steps further.

Definition of dual-use

Regarding the definition of dual-use, most of today's important technologies can be considered dual-use. A general, or all-encompassing definition, is nearly impossible to develop. Identifying the exclusive focus on civil applications in emerging technologies is complex due to ethical, legal, and societal issues of concern. What is more important is understanding the technology, its specific areas of defence and civil application, and the risks of, and potential implications for, its misuse via uncontrolled export sales. First, there should be a common understanding on this issue by Member States and the EU Institutions: such understanding will be key for establishing further actions to target dual-use potential. With no clear definition on "dual-use" in the context of this consultation, it is not clear whether the EC strategy for cross-fertilisation will work in either of the three options presented. A suggestion would be to use the

term “R&D with civil/military synergy potential”¹ rather than “dual-use potential”, to avoid any hesitance to step into a dual-use funded project due to the challenging requirements for RTOs to comply to the EC Dual-Use Regulation 2021/821. To avoid confusion but also to reduce compliance barriers, more and better guidance from the EC is needed to support the RD&I community to comply with export control regulations.

The need for keeping a strong civil (security) focus in the EU FPs Programme

Today, there are more innovations transferring from the civil domain to the defence domain rather than the other way around. Therefore, a strong and substantial civil (security) research EU programme within the EU FPs remains essential, also as support for the defence sector.

Although the White Paper indicates that “*increasing the EU’s resilience is a priority for both defence and internal security needs*”, over the last years the budget of the FPs’ Civil Security for Society research programme gradually decreased, while the budget for defence-related RD&I has grown considerably. With a potential abandoning of the “exclusive focus” on civil applications, many RD&I actors see the risk of a further gradual decrease of the civil research budgets to expand the defence research one.

On the other hand, in Option 2, calls for dual-use funding could be clearly marked both to be easily identified by nontraditional players: it would then be possible to monitor the budget that is actually directed to such dual-use calls and their resulting projects (if they carry a military application). Such budget monitoring can alleviate some of the budget concerns by for example placing a cap/maximum on the total budget to be allocated to dual-use calls (e.g. like done for EU missions). However, there is still a risk: as long as there is no common definition of dual-use, there is no sorting of calls possible according to the calls objectives and intended outcomes.

In addition, Option 2 would most likely attract more industry stakeholders as potential participants in RD&I projects, contributing to the cross-fertilisation of civil and defence industries. While being positive to have more industry involved in the FP, we can expect that competition will increase, as well as the number of high-quality proposals, while if the budget remains the same, then success rates will decrease drastically. To avoid this, this would call for a clear increased budget for FP10 to cover the added dual-use calls.

So, EARTO members note that:

- Option 1: Safeguards a dedicated budget for exclusive civil security applications. So, maintaining the exclusive focus on civil applications in FP10 will better guarantee the involvement of beneficiaries that are legally or morally restricted to conduct research on (potential) military applications.
- Option 2: Removes the exclusive focus on civil applications and brings the risk of a budget shift to defence-related research, which would not be welcome without an increase budget for FP10. Moreover, it is necessary that all parts of FP10 remain accessible by European RD&I actors with a civil clause in their legal statutes.
- Whatever option is selected, it is recommended that the EU Institutions give special attention to export control scrutiny. Furthermore, calls dedicated to dual-use technologies should be subject to strict security measures and restrictions to prevent EU programmes from financing, even partially, military RD&I in third countries not identified as potential European Defence Fund (EDF) beneficiaries.

Seeking for synergies and cross-fertilisation between civil and defence

Current regulations offer sufficient potential for cross-fertilisation and synergies between civil and military. This potential, however, needs to be implemented and arranged for explicitly. The suggestions provided in the different options are promising such as aligning and coordinating the work programmes, supporting Pre-commercial procurement (PCP) across programmes, an additional obligation to exploit results in other domains (including support to beneficiaries to enter the Defence market), and supporting spin-in and spin-out calls.

Some comments and suggestions made by our experts:

- Organise joint calls like previously published, e.g. Security & ICT (like the current CL3 Cyber Security calls), Security & Space, Security & Climate, to stimulate synergies across application domains.
- To stimulate knowledge transfer from defence-related RD&I programmes to the civil domain, implement an additional requirement in these defence-related programmes (and not necessarily in FP10).

¹ See also [EECARO](#) response to the White Paper on concerning R&D with dual-use potential

- Introduce an exploitation task to explore the application of results in the civil market (spin-out). This exploitation/commercialisation activity would aim at identifying potential applications and users /customers for defence-military technology developed. The commercialisation plan could include a minimum number of prospects. Once the opportunities are identified, a second task would be to develop feasibility/pilot demonstrators for the technology in this new application domain. In general, conducting small-scale pilots of prototypes in other domains could be very useful to stimulate dual-use application of technologies and synergies across domains.
- Stimulate a better use of research tools and infrastructures funded by EU programmes. The defence sector does not yet benefit much from these tools and infrastructures under the current system. Specific calls should be made to facilitate the usage of those in defence use cases. Such infrastructures, often managed by RTOs, could benefit a larger number of industrial players, to validate the innovative potential of technologies for both civilian and defence industries.

Some issues related to Option 1 and 2 on this topic include:

- Issues with Option 1: One of the suggestions made under Option 1 is to “introduce a dual-use flagging mechanism (e.g. a tag at call level or a project-level label) to signal the additional dual-use potential as well as spin-in/spin-out calls based on the practice already followed for the work programme topics under the Horizon Europe specific programmes.” Although this may sound promising, it is not clear to which extent this should and even can be done upfront, or if it could better be decided after the project results have been delivered. This can be problematic upfront with no common definition of “dual-use research” available. It seems more doable to decide on this dual-use flagging after the project results have been delivered, relying on the current (export) regulations regarding dual-use items. Furthermore, it is not clear who would decide on this flagging either.
- Issues with Option 2: Systematically seeking for synergies and cross-fertilisation between civil and defence and working towards a better coordination between the related programming is already on the agenda for several years. The question is how successful this will be without any fundamental changes in the programming, like proposed in Option 2. It would make sense to implement some fundamental changes to really achieve more synergies and promote dual-use research. Replacing the “exclusive focus” with “focus” for selected parts of FP10 could be such a change. However, it remains unclear how these “selected parts” would be identified without again having a common definition of “dual-use research”. It is also unclear which entity would identify these “selected parts” in a structured way, and not only case-by-case.

Complementarities between EU & National actions

This topic relates to Option 2 which includes complementarities with national priorities that can be scaled-up to take the results of EU actions further. In practice, this seems rather challenging. In our experience the National Ministries of Defence (MoDs) (in close collaboration with NATO allies) are very well organised and know how to define capability gaps and to identify innovations coming from civil research potentially relevant for defence RD&I. Nevertheless, at this moment there is 1) relatively little interest from MoDs to be involved in civil research programmes, and 2) little capacity to broaden their scope to civil research programmes.

In parallel, the respective ministries involved in civil security RD&I are relatively less well-organised at EU-level in defining joint capability gaps leading to an upscaling of research results. This may hinder a successful programming with additional third countries in areas of mutual interest. Furthermore, these ministries have still to further develop their own mechanisms for (precommercial) procurement and needs assessment: the development of such capacity will still take considerable time.

EARTO remains ready to provide additional input: our WG S&D experts are available for further discussion with EU institutions for further thinking on how best to treat technologies with dual-use potential in the future EU programmes.

EARTO - European Association of Research and Technology Organisations

Founded in 1999, EARTO promotes RTOs and represents their interest in Europe. EARTO network counts over 350 RTOs in more than 31 countries. EARTO members represent 150,000 highly-skilled researchers and engineers managing a wide range of innovation infrastructures.

RTOs - Research and Technology Organisations

From the lab to your everyday life. RTOs innovate to improve your health and well-being, your safety and security, your mobility and connectivity. RTOs’ technologies cover all scientific fields. Their work ranges from basic research to new products and services’ development. RTOs are non-profit organisations whose core mission is to produce, combine and bridge various types of knowledge, skills and infrastructures to deliver a range of research and development activities in collaboration with public and industrial partners of all sizes. These activities aim to result in technological and social innovations and system solutions that contribute to and mutually reinforce their economic, societal and policy impacts.

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