The University of Lorraine (UL) is one of the largest French public research universities based in Lorraine, Grand Est region, France. With more than 60.000 students spanning 49 geographic locations, it is considered nationwide as being first in terms of engineering education and student entrepreneurship. The university brings together more than 3,900 researchers in 10 research centres comprising 60 research laboratories. In this regard, the UL owns 220 patent families and hosts plug-in labs, rendering it a leading R&I incubator.

**Background**

In the Joint Communication on the European Economic Security Strategy (JOIN(2023)20 final[1]), the European Commission (EC) committed to report on options to ensure adequate, strategically targeted support for dual-use technology development (technologies that can have both civilian and military applications), after reviewing the scope of existing instruments. In January 2024, the EC followed up by publishing the White Paper "On options for enhancing support for research and development involving technologies with dual-use potential"[2] and launching a public consultation process which

The overall **objective** of this White Paper is to explore options **to improve the integration and cross-fertilisation of civil and defence technologies** in the European industry. It will do this **by pursuing the better use and exploitation of project results and identifying actions to allow**, where applicable, **dual-use results from civil R&D activities for defence applications and from defence R&D activities for civil applications**.

The **current legislative framework** is characterised by **mutually exclusive focuses on either civil or defence applications** as well as the **lack of a commonly agreed conceptualised definition**. The integration of new technologies developed through defence funding into the civil sector is still limited, and its potential remains largely unexploited. The EU institutions continuously **need to explore possible options** to strengthen this cross-fertilisation in the context of R&D support involving technologies with a dual-use potential, **while taking into account the fundamental differences between civil and military spheres**.

1 Joint Communication to the European Parliament, the European Council and the Council on 'European Economic Security Strategy', JOIN(2023)20 final.

2 European Commission (2024). White Paper on options for enhancing support for research and development involving technologies with dual-use potential, https://research-and-innovation.ec.europa.eu/document/download/7ae11ca9-9ff5- 4d0f-a097-86a719ed6892_en.

To meet these challenges, the Commission has identified three possible options for the future that are presented in the table below:

**Option 1** proposes **building upon the current EU funding framework by incrementally improving existing measures and leveraging ongoing initiatives**, such as the European Innovation Council (EIC) Transition Scheme[3] and EU Defence Innovation Scheme[4] (EUDIS), to enhance the development and exploitation of dual-use technologies. This option emphasizes the **need for a common definition of technologies with dual-use potential** between the Commission and the European Investment Bank (EIB) Group to facilitate joint investments. Implementation measures could include modifying parameters within existing programs to promote dual-use applications, enhancing coordination between civil and defence research and development, introducing additional exploitation obligations, and providing guidance and support to beneficiaries. While **feasible within the current financial framework**, further development and coordination are **necessary to maximize synergies and foster the development of both civil and military technologies**.

**Option 2** proposes a **shift away from the exclusive focus on civil applications in selected parts of the successor program to Horizon Europe**, potentially allowing support for strategic emerging technologies regardless of their field of application, particularly where dual-use potential is prominent. While **maintaining Horizon Europe's openness to third countries**, this option could lead to a more inclusive approach **attracting industry stakeholders from both civil and defence sectors**. However, concerns may arise within the civil stakeholder community regarding their participation in calls not exclusively focused on civil applications. Implementation of this option would require careful consideration of various parameters including budget distribution, interlocutors at national levels, handling of sensitive information, and procurement rules, among others.

**Option 3** suggests the **creation of a dedicated instrument focusing on research and development (R&D) with dual-use potential**, which could take various forms. This could include a specific budget, rules on participation and dissemination of results, governance provisions, and consortia structures. Another approach could involve enhancing EU market uptake of dual-use technologies through mechanisms like executive agencies or dedicated Joint Undertakings, or through public procurement by EU-based end-users. Additionally, planning 'dual-use by design' flagship projects supporting critical technologies could be considered. **While this option would increase the visibility of dual-use R&D, it might add complexity to the R&D support environment and risk duplication of efforts**. It could also lead to **rigidity in resource allocation and coordination challenges between dual-use R&D activities and other calls**. Overall, while it could offer clarity in budget distribution, it may bring about additional complexity for both applicants and the Commission in coordinating different requirements and provisions.

The UL welcomes the European Commission’s invitation to the public consultation and feedback on the White Paper, and hereby submits their contribution.

**Dual Use Definition**

As the Commission highlights, the existence of a commonly agreed and conceptualised definition of “dual use” in the context of R&D support is deemed necessary for joint investments with other stakeholders (e.g., EIB), to be developed. According to the UL research communities, defining dual use should communicate a clear and comprehensive scope encompassing a broad range of technologies, while optimally balancing between addressing security concerns and fostering innovation. Furthermore, it is deemed necessary, at the same time, for precautionary measures to be

3 Which provides follow-up support to develop commercial applications from research results.

4 Part of the European Defence Fund (EDF) launched by the Commission in May 2022 which provides an analysis of opportunities and constraints for strengthening support to technologies with dual-use potential.

applied in order to avoid any kind of misuse or proliferation e.g., based on risk assessment mechanisms.

**Our position**

The UL is in favour of Option 2 as we believe that the other options would either significantly affect current financial planning or complicate the research landscape. These arguments are widely accepted and supported by research institutes such as the Paul Scherrer Institute, private enterprises (e.g., Navantia), and individuals (researchers) from the scientific community. Furthermore, the partial opening of Horizon Europe's successor program could enable the development of applications which will take into account requirements coming from the defence sector in advance. In the opposite case, should such requirements be not taken into consideration as a priority, this could raise significant challenges when it comes to transferring a civil application into the defence sector for dual-use exploitation. The UL also supports the view that the dual-use aspect should be implemented into the next FP10, provided that it will not directly affect the intended budget allocations, and there will be additional funding distributed to serve any further needs which may arise. Finally, when it comes to the implementation of Option 2, the need to reinforce integration and relatedness between the FP10 and EDF is also deemed essential for promoting the necessary continuity and a smooth transition of progress, from the development phase (FP10) to the practical application and exploitation phase (EDF).

**Priorities**

When it comes to the adoption of Option 2, the UL finds of critical importance to elaborate on certain aspects that are regarded as essential for optimally promoting R&I:

- Ensuring a balance between fundamental and applied research should be a priority for subjects falling under the dual-use status. It is important to ensure that not only applications with higher TRLs will be considered, but also fundamental research.

- Defining a clear framework and guidelines for international collaboration of the scientific and research community so as not to be discouraged from collaboration due to the potential limitations that the dual-use implementation may carry.

- Dual-use should also foster military to civil research and not only civil to military research, while ensuring that those opting for military applications will have the opportunity to research and apply the civil aspect of their research.

- The civil aspect of dual-use technologies should fall under the current regulatory framework of Horizon Europe, while any restrictions should be attached to the military aspect.

**Additional aspects to be considered**

Apart from the highly essential priorities mentioned above, there are additional aspects to be considered and reviewed by the Commission:

- Dual-use technologies span across a spectrum of fundamental to applied research. Designing eligibility criteria that accommodate both fundamental and applied research projects, while ensuring alignment with strategic objectives and security considerations, would require careful deliberation.

- The Commission encourages open science practices e.g., open access publishing, data sharing, etc., and thus, there should be clear guidelines on the open science norms concerning dual use.

- The establishment of a monitoring and evaluation mechanism is deemed necessary for providing valuable feedback on the impact of dual-use R&D investments, including potential economic, societal, or security outcomes.

- Education and Training on dual-use issues for students, researchers, or project participants should be mandatory. In the same context, awareness, support, and guidance for researchers and stakeholders on the potential risks and ethical dilemmas stemming from dual-use technologies should also be increased.

- Finally, these ethical dilemmas should be carefully considered by the Commission. Ensuring that dual-use activities adhere to ethical standards and legal frameworks, without limiting innovation and knowledge exchange, poses a critical challenge to overcome for all three options proposed by the Commission. For example, the establishment of an ethical review mechanism which can evaluate the potential implications of projects with dual-use technologies could address such challenges along with the promotion of ethical decision-making.

**Conclusion**

Dual-use technologies should benefit from a common and unambiguous definition, framework and guidelines, both due to the critical importance and potential they carry, as well as the vast risks associated with their nature. In this regard, the University of Lorraine supports the endeavour of the European Commission to establish the above-mentioned structures. However, it is of critical importance for the University to ensure that the inclusion of dual-use either in the current or the upcoming Framework Programme will not affect the intended budget allocations for fundamental civil research. It is essential to ensure that the additional budget needed for covering the needs of the military dimension of dual-use should come exclusively from the relevant mechanisms and tools. Regardless of the approach chosen by the Commission, it is necessary to adequately regulate the military aspects of dual use with a minimal intervention and repercussions for civil applications, while avoiding any probable ‘spill-over effect’ that could arise e.g., due to overregulation of military aspects.