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Emerging Disruptive Technologies: The Achilles' Heel for EU Strategic Autonomy?

by Ester Sabatino and Alessandro Marrone

Emerging disruptive technologies (EDT) – ranging from artificial intelligence (AI), big data, autonomous systems, hypersonic weapons and robotics to name a few prominent examples – have become central in contemporary debates on how to enhance the EU's strategic autonomy in the security and defence field.

Nonetheless, the level of member states investment in this sector remains low, particularly in comparison to other international actors such as the US and China. This implies a risk that EU countries will not be able to bridge a widening capabilities gap in such a domain. Increased focus and action on this issue is therefore understood to be of paramount importance for the future.

Indeed, the pervasiveness of new technologies in defence systems and dual-use items requires the Union's members not only to spend more and better on innovation and research & development, but also to reduce their dependencies on non-EU suppliers and technologies.

The Union has engaged in a number of important initiatives since 2016, aiming to reinforce the European Defence Technological and Industrial Base (EDTIB) to reach higher levels of strategic autonomy.[1] Developing a strong industrial base and benefitting from cutting-edge technology in

[1] For a comprehensive reflection on strategic autonomy and defence sector see, Ester Sabatino et al., "The Quest for European Strategic Autonomy – A Collective Reflection", in *Documenti IAI*, No. 20|22 (December 2020), https://www.iai.it/en/node/12534.

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the defence realm can be decisive in determining the EU's level of influence and projection in a multipolar and challenging world.

Among these recent initiatives, the Strategic Compass, which is due to be completed by the first semester of 2022, represents one important contribution with high potential to positively drive strategic autonomy.[2] Based on a common threat analysis, this process should define clear and reachable objectives for EU security and defence policy, providing political guidelines and recommendations on priority issues.

In doing so, the Strategic Compass should provide momentum and guidance for ongoing EU defence initiatives such as the Permanent Structured Cooperation (PeSCo) and European Defence Fund (EDF), through greater and tangible commitments by member states to work together on concrete objectives. The technological component of these efforts will have direct and indirect repercussions on the four baskets that are part of the Strategic Compass: crisis management, resilience, capabilities & instruments and working with partners.

Emerging disruptive technologies will increasingly constitute a relevant part of military and dual-use capabilities determining the kind of missions and operations that EU member states will be able to conduct. Moreover, the capacity to develop and protect niches of expertise that drive new capabilities will positively affect the resilience of the Union. Yet, due to the rareness of certain raw materials and what sometimes constitutes a lack of technological capabilities by certain individual states, cooperation with partners will be of paramount importance.[3]

Significantly, emerging disrupting technologies are also part of the Atlantic Alliance's reflection on resilience. In the run up to the next NATO Strategic Concept, these disruptive technologies will play important roles[4] and hence there is a window of opportunity for EU–NATO cooperation, and EU partnerships with the US and the UK as well.

With regards to EDT, the Strategic Compass faces three major challenges: (i) to bind its recommendations to defined deadlines, (ii) to embed its outcomes in national defence planning processes and (iii) to make the most of existing EU initiatives such as PeSCo and EDF.

This is particularly relevant in the event that repercussions from the covid-19 pandemic carry over to defence

[2] European External Action Service (EEAS), *Towards a Strategic Compass*, May 2021, https://europa.eu/!Wm79tc.

[3] In the recent EU–Japan joint statement, for example, there is a focus on "exploring cooperation on supply chain resilience (including on critical components such as semi-conductors and access to raw materials)". See *EU-Japan Summit 2021 Joint Statement*, 27 May 2021, p. 7, https://europa.eu/!ph76Gt.

[4] The final report of the group of independent expert dedicates a paragraph to EDTs. For more details please see, Thomas de Maizière and A. Wess Mitchell (chairs), *NATO 2030: United for a New Era. Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General*, 25 November 2020, https://www.nato.int/cps/en/natohq/news_179730.htm.

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spending and investments. Presently, defence expenditure has not been too heavily impacted by the pandemic-induced economic crisis, but given its long-term consequences and the dramatic increase in sovereign debt across Europe, a drawdown cannot be ruled out in the coming years.

Such an eventuality would be detrimental to reaching higher levels of strategic autonomy in the defence realm, as such capacity is understood to be directly proportional to the availability of cutting-edge, full spectrum capabilities.

Against this backdrop, both PeSCo and the EDF should be better coordinated and directly related to the Strategic Compass.[5] As for PeSCo, EDT can be directly or indirectly developed through some of the more ambitious capability projects, i.e. TWISTER and EUROMALE. More importantly, given that the EDF chiefly aims to increase and enhance research and development capabilities in the EDTIB, a weak connection between the Compass and the EDF might greatly hamper the possibility to reach effective results in terms of EU strategic autonomy.

With regards to the EDF, one third (i.e. 2.65 billion euro) of the total 7.95 billion euro budget for the Multiannual Financial Framework 2021–2027 will finance research activities, while the remainder (5.3 billion euro) will be devoted to co-financing the development phase of the selected projects.[6]

The research portion should be directed at those projects that will impact EDTIB research and development capacities the most. Development funding, meanwhile, should support member state capability development by prioritising those projects that fill military gaps jointly identified through EU initiatives such as the Capability Development Plan and the Coordinated Annual Review on Defence.

The EDF regulation[7] already dedicates special attention to disruptive technologies for defence, as most European industries in this field depend on sectoral innovation from non-EU companies.[8] It is against this backdrop that at least 4 per cent and up to 8 per cent of the financial envelope is supposed to be allocated to projects supporting this kind of innovation.

Moreover, by means of implementing acts, the Commission will award

[5] On the potential linkages between the two initiatives, see among others: Eduard Simon and Alessandro Marrone, "Linking PESCO and EDF: Institutional Mechanisms and Political Choices", in *ARES Reports*, No. 66 (April 2021), https://www.iris-france.org/notes/linking-pesco-and-edf-mechanisms-and-political-choices.

[6] European Commission, *EU Defence Gets a Boost as the European Defence Fund Becomes a Reality*, 29 April 2021, https://ec.europa.eu/commission/presscorner/detail/en/IP_21_2007.

[7] European Parliament and Council of the European Union, *Regulation (EU) 2021/697 of the European Parliament and of the Council of 29 April 2021 establishing the European Defence Fund and repealing Regulation (EU) 2018/1092*, 29 April 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R0697.

[8] Cemal Karakas, "Defence Industry Cooperation in the European Union. Rationale, Initiatives, Achievements, Challenges", in *EPRS In-Depth Analysis*, May 2021, https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_IDA(2021)690607.

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adequate funding to projects related to disruptive technologies that fall under the annually agreed work programme. The recently agreed technological roadmaps for the defence, space and civilian sectors may act as a force multiplier by concentrating different EU investment portfolios on those emerging disruptive technologies deemed crucial for more than one sector.

As a matter of fact, the work of the EDF will be defined by annual programmes detailing research topics, actions to be supported and the overall amount of financial support that is foreseen for each action. The Commission is dependent on the prior approval of the work programme by a committee including independent experts as well as member state representatives.

The role of the committee is therefore of paramount importance. It will define EDF programmes and play a central role in the awarding procedure, since committee approvals for funding of specific projects will be based on standard qualified majority voting procedures.

However, the presence of a representative for each member state in the committee might lead to diverging positions over the technologies and projects to be included in the work programme. This process is currently being tested, as the first EDF work programme should be agreed on by July 2021, in order to effectively kick off and fund cooperative projects before the end of the year.

It is also in this context, that the European Council's request earlier this year to the Commission to present a technology roadmap by October 2021 can be understood as a coordination effort by different EU institutions.[9] Indeed, the roadmap should indicate research, development and innovation opportunities and procedures to reduce the strategic dependencies of EU member states in critical technologies and value chains.

This goal is strictly related not only to the EDF, but also to the Strategic Compass. The timeline of the technology roadmap does not allow for its results to be included in the 2021 EDF work programme, but it will most probably benefit the Strategic Compass. Indeed, priorities identified by the Commission will need to be compared and harmonised with those of member states.

Overall therefore, this effort by the Commission can be considered an informed input for the Compass, aiming for a coordinated increase in EU strategic autonomy when it comes to emerging disruptive technologies. Ultimately, the more synergies and alignments are created between the EDF and the Strategic Compass the better, as this will carry over to improve capabilities and integration across the EU and its member states.

This is part of a longer process to invest more, invest together and thus invest better than in the past on the EDTIB

[9] European Council, *Statement of the Members of the European Council* (SN 2/21), Brussels, 25-26 February 2021, https://europa.eu/!Wx48Pj.

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robustness and defence innovation in particular, in order to prevent that emerging disruptive technologies become the Achilles' heel in the EU's quest for greater strategic autonomy in the security and defence field.

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