#74

EU CIVIL-DEFENCE SYNERGIES: Understanding the Challenges and Drivers of Change

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March 2022

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They do not reflect the views of any organisation.

Policy Paper

ARES
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ABSTRACT

This paper looks at the European Union's approach to promoting civil and defence synergies. More specifically, it focuses on the strategies and policies developed by the European Commission to help stimulate the cross-fertilisation of civil and defence research. A core part of the analysis is to show the evolution of the EU approach to such synergies. By drawing on official documents published by the European Commission since 1996, we elaborate three drivers of change to explain the growing importance of civil-defence synergies: 1) defence market pressures; 2) technological innovation; and 3) policy entrepreneurship. In looking at these three drivers, the paper offers the reader policy and historical insights, but it also outlines the challenges facing Union efforts to promote civil-defence synergies.

This is a timely analysis given: 1) the commitment of EU leaders to foster these synergies at the informal summit of February 2021; 2) the presentation, in February 2022, of the European Commission's "defence package" that further builds on civil-defence synergies; 3) the iteration by EU leaders of their commitment to foster civil-defence synergies at the informal Summit of 10-11 February 2022 (the "Versailles Declaration"); and 4) and the strong statement on civil-defence synergies in the Strategic Compass that will be endorsed by EU leaders in March 2022. Given these steps, and considering the 2022 war on Ukraine, we argue that it may now be time for EU Member States to take the necessary decisions that fall on them.

Keywords: *synergies, civil, defence, space, industry, innovation, dual use.*

INTRODUCTION

The European Union (EU) is increasingly developing policy to stimulate the cross-fertilisation of civil and defence innovation and industrial synergies between the two sectors. The combination of a need to invest in innovation and technology, a growing pressure to respond to strategic competition and a deteriorating threat landscape, means that institutions such as the European Commission are moving at a rapid pace to design policies that can unlock innovation and industrial competitiveness. Russia's invasion of Ukraine in February 2022, which has led to commitments to 'invest more and better' in defence capabilities and EU deliveries of lethal equipment, has only emphasised the need for the EU to invest in military capabilities and its long-term defence. In March 2022, at the Versailles Summit, EU leaders gave the Commission only two months (in May 2022) to put forward an analysis of defence investment gaps and propose further initiatives to strengthen the European defence industrial and technological base. There is most definitely a political momentum that should be seized.

In fact, in 2021 the European Commission adopted a Communication on Synergies between Civil, Defence and Space Industries[1] (from now on: the 'Synergies Action Plan') as a recognition of the growing importance of certain civil technologies. The overarching rationale for this Communication was to stimulate spin-offs and spin-ins through a cross-pollination between a range of EU funding tools (such as the European Defence Fund (EDF), Horizon Europe, the EU Space Programme, the Digital Europe Programme, Connecting Europe Facility and InvestEU programme). The Commission doubled down on its initiative with more specific proposals in the 2022 Roadmap on Critical Technologies for Security and Defence[2] (from now on: 'the Roadmap'), this time extending the scope to EU and national programmes jointly and boosting further initiatives launched by the Synergies Action Plan, such as defence innovation and the Observatory for Critical Technologies (from now on: the 'Observatory').

[1] European Commission, 'Action Plan on Synergies between Civil, Defence and Space Industries', *COM(2021) 70 final*, Brussels, 22 February 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0070&from=EN.

[2] European Commission, 'Roadmap on Critical Technologies for Security and Defence', *COM(2022) 61 final*, Brussels, 15 February 2022, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0061&from=EN.

These proposals came at a geopolitically dynamic period for the Union. It is important to understand the dynamics that are pushing this drive for civil-defence synergies and to discuss how their implementation can be best organised. Of course, 2021 was not the first time that the EU tried to promote civil-defence sector synergies. In 1996, another Communication by the Commission outlined the need for 'technological synergies between civil and defence industries' and the promotion of 'synergies between the various means of EU Action'[3]. It was presented at a time where hopes for a more integrated Europe were high, but many of the proposals did not bear fruit. Understanding why there was a lack of progress after 1996 can be instructive for the Union's current efforts.

To this end, we draw on policy developments since 1996 to show how three drivers of change can help explain why the European Commission has pushed policy and on civil-defence synergies. These three drivers of change are: 1) defence market pressures; 2) technological innovation; and 3) policy entrepreneurship. On this basis, we hope to provide a more substantive account of the importance and challenges associated with the implementation of the European Commission's most recent attempt to encourage civil and defence synergies.

Accordingly, this paper is divided into four main sections. The first section compares core European Commission documents on civil-defence synergies, such as the Communication on the Challenges facing the European Defence-Related Industry and the more recent 2021 Communication on an Action Plan on Synergies between Civil, Defence and Space Industries (referring where relevant to proposals in the 2022 Roadmap). Section two considers how defence market pressures have driven EU policy in the areas of civil and defence synergies. The third section focuses on technological innovation and how technological developments blurred the dividing line between civil and defence technologies imposing thus a need for EU civil-defence innovation strategies. The fourth section considers the increasingly more entrepreneurial role of the European Commission in the area of defence innovation. The conclusion synthesises the findings of

[3] European Commission, "The Challenges Facing the European Defence-Related Industry, A Contribution for Action at European Level", *COM(96)10 final*, Brussels, 24 January 1996, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51996DC0010&.

the three drivers to distil the main challenges facing Europe in terms of civil and defence innovation.

25 YEARS OF SYNERGY STRATEGIES

Before looking at the drivers behind the EU's efforts to stimulate civil-defence synergies, one of the elements to consider are the changes experienced in EU security and defence policy over the past 25 years. We say 25 years because the 1996 Communication on defence was the first time the EU attempted to develop a strategy for synergies. The 1990s were an important time for the EU that saw a range of steps forward in European integration, including the Maastricht Treaty (1992), the Single Market (1993), enlargement (1995), the Amsterdam Treaty (1998), the introduction of the single currency (1999) and the creation of the European Security and Defence Policy (1999).

However, steps taken in the 1990s should be compared to the 2021 Communication for an "Action Plan on Synergies between Civil, Defence and Space Industries"[4], which followed a period of intense work in EU security and defence policy. Such work included the publication of the EU Global Strategy and European Defence Action Plan (EDAP) (both in 2016), and a range of new instruments such as the EDF and Permanent Structured Cooperation (PESCO). With the exception of the 1996 Communication, the 1990s arguably saw more focus on the operational and decision-making aspects of the Common Security and Defence Policy (CSDP). The 2000s and 2010s, however, saw the relative importance of capability development and industrial matters grow in EU policy.

Despite these different periods of time, it is worth briefly considering the approaches of each EU document and strategy.

The 1996 Communication

On 24 January 1996, the Commission adopted a Communication that examined the challenges facing the European defence-related industries following the end of the Cold War. It stressed the need to ensure that these industries are competitive in the face of

[4] Op. Cit., "Action Plan on Synergies between Civil, Defence and Space Industries".

international competition. The Commission understood that the armaments sector was not a static technological domain and that a range of dual-use and civil technologies were increasingly being integrated into armaments systems. Defence Research and Development (R&D) had indeed been shifting over successive decades from the 1960s with a re-balancing from "spin-off" activities to "spin-in" technologies. Modern weapons systems increasingly integrated a range of electronics and computing components/systems that were developed using civilian R&D.[5]

Thus, the Communication stressed the importance of facilitating the exchange of knowledge and information between civil and defence sectors, especially as a growing number of defence firms at the time were seeking to overcome 'the separation between their civil and defence activities' in order to strengthen strategic industrial alliances within and across Europe, unlock innovation and manage costs.[6] Echoing to some degree the experiences of defence firms in the United States (US)[7], the Communication was designed to support EU members with sizeable defence and civil industries in pursuit of developing synergies on a national basis.[8]

Despite not yet having in place key space projects such as Galileo or Copernicus at the time, space was one of the core features of the 1996 Communication. Indeed, the Communication stated that the 'space industry displays a great degree of common ground between military and civil applications. In that respect, the US industry has long benefited from defence programmes as a springboard into commercial applications in space.'[9] As we stated above, this objective was further pursued by a more specific Communication on space later in 1996, which encouraged a coordinated approach by the EU, the Member States, the Western European Union (WEU) and the European Space Agency (ESA) towards dual-use space technologies.

[5] Bellais, R. and Fiott, D. (2017) "The European Defense Market: Disruptive Innovation and Market Destabilization", *Economics of Peace and Security Journal*, Vol. 12, No. 1: pp. 38-45.
[6] Op. Cit., "The Challenges Facing the European Defence-Related Industry", p. 10.
[7] Dombrowski, P. and Ross L.A. (2008) "The Revolution in Military Affairs, Transformation and the Defence Industry", *Security Challenges*, Vol. 4, No. 4 (Summer): pp. 13-38.
[8] Guichard, R. (2005) "Suggested Repositioning of Defence R&D within the French System of Innovation", *Technovation*, Vol. 25, No. 3 (March): pp. 195-201.
[9] Op. Cit., "The Challenges Facing the European Defence-Related Industry", p. 11.

In order to make an impact, the Communication first identified the relevant and available instruments located in the EU framework. These included Common Foreign and Security Policy (CFSP) policies in the intergovernmental sphere such as the notion of 'common security interests' found in the Maastricht Treaty, the expressed desire for harmonised technology transfer and arms export policies and closer cooperation between the EU, the WEU and the Western European Armaments Group (WEAG). Such CFSP provisions were identified alongside a raft of Community instruments including public procurement, intra-EU trade, RT&D, standardisation and export controls for dual-use goods. Added to this was competition policy and the use of structural funds.

While we cannot hope to cover every aspect of the Communication here, it is worth considering that the Communication made clear that support for dual-use technologies such as advanced materials, ICTs, aeronautics technologies and energy storage or conversion were required[10]. Accordingly, the Communication proposed to establish clearer links between EC and WEAG research programmes and to factor in dual-use considerations under the then Fifth Framework Programme. Furthermore, the Communication called for the relevant EU authorities to scope and assess civil standards that could be applied to the defence sector.

The 2021 Action Plan

In contrast to the 1996 Communication, the 2021 Action Plan followed the creation of the EDAP. In 2021, the Commission could rely on a range of new EU security and defence instruments and policies, and especially the EDF, and the potential of civil-defence synergies was now recognised at the highest political level. Indeed, when President von der Leyen took office in 2019 she immediately tasked her Commission to 'ensure cross-fertilisation between civil, defence and space industries' and 'focus on improving the crucial link between space and defence and security'[11]. To this end, in March 2020 the

[10] Op. Cit., "The Challenges Facing the European Defence-Related Industry", p. 20.

[11] See the mission letters to Executive Vice President Vestager (https://ec.europa.eu/commission/commissioners/sites/default/files/commissioner_mission_letters/mission-letter-margrethe-vestager_2019_en.pdf) and Commissioner Breton (https://ec.europa.eu/commission/commissioners/sites/default/files/commissioner_mission_letters/president-elect_von_der_leyens_mission_letter_to_thierry_breton.pdf).

Industrial Strategy for Europe[12] announced 'an Action Plan on synergies between civil, defence and space industries, including at the level of programmes, technologies, innovation and start-ups', which was – again, crucially - welcomed by the Council.[13]

When the Commission adopted the Action Plan on Synergies on 22 February 2021, President von der Leyen went as far as to call it 'an important building block for the European Defence Union'.[14] The Action Plan proposed three main objectives (the so-called "Three-Point Belt" plan) including: 1) enhancing complementarity between EU instruments for the efficiency of investments and effectiveness of results (the 'synergies'); 2) ensuring that investments in defence and space technologies find concrete civil applications (the 'spin-offs'); and 3) facilitating the use of civil research achievements and innovation into new European defence projects (the 'spin-ins').

In outlining 11 specific actions, the Commission proposed that the Union invest time into identifying critical technologies and then developing "technology roadmaps" that could pave the way towards cross-fertilised investments, secure supply chains and technological excellence. The Commission also called for three flagship projects to test the idea of civil-defence synergies. Normally, these should be an outcome of technology roadmaps but these three were selected from the outset as politically important and technologically ripe areas. These three projects would centre on Remotely Piloted Aircraft Systems (RPAS) technologies, space secure communications and space traffic management. Such projects will be recognised by the reader, as they were also mentioned in the 2013 European Council Summit conclusions on defence.

The Commission used the Synergies Action Plan to reiterate a number of objectives. First, that it would target its support for SMEs, defence innovation, cybersecurity-cyberdefence synergies and disruptive technologies. Second, that the planning of internal security and law enforcement R&D tasks could benefit from the capability-based planning

[12] European Commission, "A New Industrial Strategy for Europe", *COM(2020) 102 final*, Brussels, 10 March 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0102.

[13] Council Conclusions on Security and Defence, 8910/20 of 17 June 2020: 'The Council [...] welcomes the call for more synergies between civil and defence industries, including space, in EU programmes, while respecting the different natures and legal bases of respective EU programmes and initiatives, including the civilian nature of European space programmes, with a view to making more effective use of resources and technologies and creating economies of scale.'

[14] European Commission, "Statement by President von der Leyen at the joint press conference with President Michel, following the videoconference of the members of the European Council", 26 February 2021, https://ec.europa.eu/commission/presscorner/detail/en/statement_21_883.

methodology that works well for defence and space. Third, the Commission would develop an Observatory for Critical Technologies that would produce technology roadmaps and a biannual confidential report on critical technologies. Fourth, promote the uptake for civil and defence standards. Fifth, launch a 'dual-use innovation incubator' in close cooperation with the European Innovation Council (EIC). While there were more initiatives listed in the Action Plan, it was clear that the European Commission wanted to focus on introducing technology scoping bodies, stressing the importance of standards, promoting flagship projects and drafting technology roadmaps to provide direction and coherence to EU investments in the civil, space and defence sectors.

In February 2022, with the adoption of the "defence package", the Commission confirmed the importance of civil-defence synergies. Building on the 2021 update of the "2020 new industrial strategy" and the Synergies Action Plan, it proposed a two-track way forward. The first track was a joint one: EU and Member States should: 1) identify critical technologies and develop technology roadmaps via the Observatory; 2) promote a joint coordinated approach combining both EU and national funding; 3) organise a defence innovation scheme that would bring together relevant innovation structures and bodies in the EU and Member States. The second one was for the Commission alone, as it covered programmes under its responsibility: 4) ensure that defence considerations are factored in when planning and implementing civilian research and innovation programmes and instruments (and vice versa); 5) improve synergies of EU financing instruments in two phases (2023 and later) building on some already available results of the Synergies Action Plan; and 6) review existing EU instruments and propose ways to encourage dual-use research and innovation.

Comparing 1996 to 2021

The intervening period between the two documents saw, of course, a hive of activity in EU security and defence. Two years before the Santer Commission presented the 1996 Communication, the Delors Commission had tabled the landmark report 'Europe and the Global Information Society', often called 'the Bangemann Report' because of the Commissioner behind it. The Barroso and Juncker Commissions had dedicated time in developing the European defence industry. These included the EDF under President Juncker and the "defence directives" on procurement and transfers developed by

President Barroso.[15] It is worth recalling that both Presidents pushed forward civil-defence synergy initiatives. In July 2013, the Commission presented a Communication and Action Plan on the European defence and security sector to tackle market distortions, improve security of supply, exploit dual-use innovation and much more.[16] The 2016 EDAP, published under the Juncker Commission, set up the precursor programmes of the EDF (the Preparatory Action on Defence Research (PADR) and European Defence Industrial Development Programme (EDIDP)). Since this time, the EU has created a Directorate General for Defence Industry and Space (DG DEFIS), the EIC and the Cyber-Security Competence Centre. Cooperation with the European Defence Agency (EDA) has also been strengthened.

There are certainly similarities between the 1996 and 2021 documents on synergies, not least the fact that a conducive political environment allowed policy entrepreneurs to push forward EU-level initiatives. Clearly, the Commission has consistently promoted the importance of civil-defence synergies for the past 25 years. Yet, there are stark differences too. First, the security landscape facing the EU is far worse today due to a range of threats and a growing awareness of the need to protect the Union's core strategic interests. Another key difference is that, since 2021, the Commission has moved from stressing the importance of innovation to calling for flagship technology projects and roadmaps to guide investments. Despite these general differences and similarities, it is necessary to consider the drives of change in the EU's civil-defence synergy strategies in more detail. In the next three sections, therefore, we consider the role of defence market pressures, technological innovation and policy entrepreneurship.

[15] See Directive 2009/43/EC of the European Parliament and of the Council of 6 May 2009 simplifying terms and conditions of transfers of defence-related products within the Community; and Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security.

[16] European Commission, "Towards a More Competitive and Efficient Defence and Security Sector", *COM(2013) 542 final*, Brussels, 24 July 2013, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0542&.

DEFENCE MARKET PRESSURES: THE COST OF NO SYNERGIES

The first important driver behind the Commission's civil-defence synergies efforts in the mid-1990s was the dynamic effect of defence market pressures. Indeed, the 1990s were marked by an intense period of defence mergers and acquisitions, lower European defence spending and demand for exports and rising R&D costs. For example, the World Bank estimates that the EU countries collectively invested 2.386% of GDP on defence in 1990 but this fell to 1.662% of GDP by 2000.[17] This decline in financial resources certainly became an important driver behind the plan to stimulate civil-defence synergies, and specific attention was placed on the longer-term ingredients of a healthy defence sector such as investment in innovation, skills and standardisation.

As the Communication explained in its introduction, the 'end of the cold war, considerably reducing the security risk to Europe, has made it possible to cut military budgets and step up the moves to convert the industries concerned'.[18] The Communication made clear that employment in the defence sector had fallen by 37% since 1984, and that such reductions had had a disproportionate effect on certain regions.[19] Combined with fiercer international competition in the sector, the Commission recognised the very clear risks to Europe's defence-industrial base. In fact, the 1996 Communication had sought to crystallise the Union's past efforts to financially support the European defence sector following the Cold War. For example, the European Parliament established special measures under Perifra I and II (1991 and 1992 respectively) to assist the conversion of geographical areas heavily dependent on the defence industry. The Perifra measures were replaced in 1993 by KONVER, a multi-annual Community initiative lasting to the end of 1997.

Two to three decades later since 1996, defence market pressures have continued to push forward arguments in favour of civil-defence synergies. For example, while EU defence budgets have been on the rise since 2014 (e.g. from €158 billion in 2014 to €198 billion

[17] World Bank, "Military expenditure (% of GDP) – European Union", 2021, https://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?locations=EU.
[18] Ibid.
[19] Ibid.

in 2020)[20], they have failed to fully recover from the financial and economic crisis of the mid-2000s.[21] Consolidation of the European defence market has also continued since 1996, but at a varied pace. For example, in 2015 France's Nexter Systems and Germany's Krauss-Maffei Wegmann created KNDS through a merger, but in 2012 a planned merger between the UK's BAE Systems and EADS (now Airbus) fell through.

Many of the structural problems inherent in the European defence market were deemed so serious in the wake of the 2007 financial crisis, that the European Council held a specially dedicated summit on security and defence on 20 December 2013. Not only did the European Council conclusions underline the importance of capability development and defence-industrial matters, but it touched in interesting ways on civil-defence synergies. Firstly, the four capability priority areas outlined by the European Council all had dual-use features: RPAS, Air-to-Air refuelling, satellite communication and cyber defence all implied the integration of civil technologies or dual-use standards. The European Council explicitly acknowledged that 'civilian and defence research reinforce each other, including in key enabling technologies and energy efficiency technology'[22]. It then specifically tasked the Commission and EDA to take forward this work. In contrast to the situation in the mid-1990s, therefore, the call for closer civil-defence synergies came directly from the European Council.

Directly after this summit, the Commission began work on its "European Defence Action Plan" (2016) which would not only again stress the importance of dual-use research and investments but also make its most ambitious proposal in security and defence yet: the European Defence Fund. The Fund was a taboo-breaking new tool that sought to use the EU budget (eventually around €8 billion over 2021-2027) to directly finance defence research and capability development to advance the Union's defence-industrial competitiveness. In this respect, it is worth noting that the EDF has been set-up as a defence-specific tool that does not *per se* focus on civil-defence synergies. This is important to keep in mind given the challenges facing the defence sector in Europe.

[20] European Defence Agency, "Defence Data: 2019-2020", p. 4, https://eda.europa.eu/docs/default-source/brochures/eda---defence-data-report-2019-2020.pdf.

[21] European Defence Agency, "Defence Data 2012", p. 6, https://eda.europa.eu/docs/default-source/documents/defence-data/defence-data-2012.pdf.

[22] European Council, "Conclusions", *EUCO 217/13*, Brussels, 20 December 2013, p. 7, https://data.consilium.europa.eu/doc/document/ST-217-2013-INIT/en/pdf.

Indeed, it was deemed necessary to create the EDF to address the fundamental structural problems of the European defence sector.

Accordingly, while the Commission has retained its attachment to civil-defence synergies over the past two to three decades, it has been clear that the EDF should address the specific needs of the European defence industry. As the EDF Regulation (2021) makes clear, 'the development of a new generation of major defence systems and of new defence technologies should be supported at Union level in order to increase cooperation between Member States with regard to defence equipment investments'.[23] It was also made clear in the EDF Regulation that the defence sector faces specific concerns with regard to the recovery of R&D costs, intellectual property rights and the level of risk assumed by innovators in the early stages of defence R&D. In this regard, one key challenge facing the European Commission is how to promote civil-defence synergies without watering down the specific defence features of the EDF. The second key challenge is the constraint set by the main EU research programme (Horizon Europe) whose legal basis sets that it can only support research with an exclusively civilian focus.

TECHNOLOGICAL INNOVATION: SYNERGIES THROUGH DISRUPTION

In addition to defence market pressures over the 1996-2021 period, it is also necessary to look at how technological changes have affected the rationale for civil-defence synergies. From the start it is worth recognising that, whereas defence market pressures have remained a constant driver of civil-defence synergies, technological innovation has witnessed profound changes. In the 2000-2010s, the term 'emerging and disruptive technologies' (EDT) or simply 'disruptive technologies' has increasingly become popular in both civil and defence communities. Indeed, the EDF has already organised specific calls on disruptive technologies, and NATO and the EDA have developed plans on such technologies.

[23] European Commission, "Regulation establishing the European Defence Fund", Regulation (EU) *2021/697*, 29 April 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R0697&from=EN.

In the 1990s, however, the main objective for the EU was to profit from the revolution in Information Communication Technologies (ICTs). The 1994 'Bangemann Report', which was requested by the European Council a year earlier, called for the ambitious objective of setting European-level regulation to facilitate the ICT revolution. The report triggered a range of other policy initiatives designed to enhance the Union's approach to ICTs and innovation. For example, in 1996 alone, the Commission adopted Communications on chemicals, automobiles, maritime industries, textiles and space.[24] In the 36-page 'Bangemann report', "defence" was only mentioned once in relation to air traffic control, though it did stress the importance for Europe to invest in satellite communications and networks.[25] Space followed with its own communication in 1996, which called for support for satellite positioning systems and pilot projects on earth observation.[26]

In the same year, the Commission opened the debate[27] on the fifth framework programme (1998-2002) to secure EU-level investments for education and training, and it combined this with strategies for intellectual property protection and improved coordination between research and innovation coordination between the national and Community levels.[28] To this end, the fourth framework programme was increased by ECU 800 million to take into account the accession of Austria, Finland and Sweden, bringing the maximum overall amount up to ECU 13.1 billion for the period 1994-98. In 1997, a further ECU 100 million was agreed by the Council for research sectors such as aeronautics, advanced communications and materials.Technology has obviously continued to evolve since 1996 and in 2021 new digital technologies have given life to questions about how best to ensure civil-defence synergies. Artificial Intelligence, autonomous systems, big data, and quantum computing did not exist in the 1990s, but 25 years later it is clear that they will disrupt a 'business as usual' approach in several markets and operations, both civilian and

[24] General report on the Activities of the European Union 1996 (see 203, 688-690): https://op.europa.eu/fr/publication-detail/-/publication/d2e7d17a-8eec-4434-99d3-e431472acb9f

[25] European Council, "Europe and the Global Information Society: Recommendations to the European Council", Brussels, 26 May 1994, https://op.europa.eu/en/publication-detail/-/publication/44dad16a-937d-4cb3-be07-0022197d9459/language-en.

[26] European Commission, "The European Union and Space: Fostering Applications, Markets and Industrial Competitiveness", *COM(96) 617 final*, Brussels, 4 December 1996, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:1996:0617:FIN:En:PDF.

[27] European Commission, "Inventing Tomorrow: Europe's Research at the Service of its People", *COM(96) 332 final*, Brussels, 10 April 1996, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51996DC0332&from=EN.

[28] Commission of the European Communities, "The First Action Plan for Innovation in Europe: Innovation for Growth and Employment", *COM(96) 589 final*, Brussels, 20 November 1996, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51996DC0589&from=nl.

defence. This unprecedented technological innovation, primarily boosted by market forces and huge commercial interest, resulted in the need for new EU initiatives and structures that fell on the blurring line between civil and defence.

For example, in February 2021, the Synergies Action Plan announced that the Commission would set up in 2022 an Observatory for Critical Technologies across civil (including security), defence and space industries. In May 2021, the updated industrial strategy of 2021 launched the process for a setup of an Observatory and a periodic review process to cover both current dependencies and risks of future (technological) dependencies across all industrial ecosystems (thus, not only in security and defence). However, as the 2022 Communication on a Roadmap on Critical Technologies for Security and Defence[29] makes clear, one of the key challenges is to decide on the level of granularity of data for the assessment of technology dependencies and gaps, which is sensitive given that Member States may be reluctant to share such data. Another important feature is getting a cross-institutional approach right, with all relevant EU bodies feeding into the analysis. Nevertheless, the prospect of producing classified reports every two years (starting in 2022) based on the Observatory's work, marks a step change for how the EU works towards anticipating and responding to technology dependencies and gaps. Based on these classified reports, the Observatory can help design technology roadmaps that can contribute to the Union's technological sovereignty.

In cybersecurity and digitalisation, the Commission has ramped up efforts to promote the security of data and communication systems, as well as to ensure that Europe can continue to invest critical technology areas. Hence, not only has the Commission helped draft a Cybersecurity Strategy, legislation on cybersecurity (e.g. the "NIS2 Directive) and a "Digital Compass" Communication, but it is supporting the creation of new institutional bodies such as the Cybersecurity Competence Centre, the Joint Cyber Unit and the European Innovation Council. The Synergies Action Plan presented a 'cybersecurity-cyberdefence action' in the context of the new Cybersecurity Competence Centre and the

[29] European Commission, "Communication on a Roadmap on Critical Technologies for Security and Defence", *COM(2022) 61 final*, Strasbourg, 15 February 2022, p. 5, https://ec.europa.eu/info/sites/default/files/com_2022_61_1_en_act_roadmap_security_and_defence.pdf.

'Commission contribution to European Defence'[30] announced a proposal for a Cyber Resilience Act to increase cybersecurity across the whole internal market.

Moreover, the Commission is using the Recovery Plan for Europe and its research, innovation, deployment, infrastructure and regional development programmes (Horizon Europe, Digital Europe Programme, Connecting Europe Facility etc) to invest billions of euros in these key technologies for civilian purposes. Some of these programmes also provide for the support of dual-use technologies (e.g. Connecting Europe Facility, Structural Investment Funds) with considerable multiplier effects (e.g. market size increase, supply-side efficiencies and innovation stimulation).

Such steps reflect a major shift in the way the EU thinks about technology, especially as many technology areas increasingly have a geopolitical dimension. We should not forget that in her guidelines for her Commission, President von der Leyen asked for a "geopolitical Commission" and "technological sovereignty". As a result, the 2021 EU Industrial Strategy focuses on stimulating industrial alliances on raw materials, batteries, data and cloud, processes and semiconductors and more. The EU is also keen to identify key strategic dependencies in technology areas, especially when it comes to energy storage and cybersecurity. With initiatives such as the 'Chips Act'[31] and its other industrial instruments the Commission seeks to lower strategic dependencies, while also encouraging innovation in the European market. Much like the situation in the early 1990s, there is a feeling that the EU is living through a technological revolution. The key difference today, perhaps, is that it is increasingly difficult to prise apart the technological and geopolitical imperatives for investing in key industrial areas.[32]

Based on these trends, it is obvious to see why the Commission would seek to find synergies between the European Defence Fund (approx. €8 billion to 2027), the EU Space Programme (approx. €13 billion to 2027) and other European programmes. For example, the recently announced European space-based secure connectivity system is proposed to

[30] European Commission, "Commission Contribution to European Defence", *COM(2022) 60 final*, Brussels 15 February 2022, https://ec.europa.eu/info/sites/default/files/com_2022_60_1_en_act_contribution_european_defence.pdf

[31] European Commission, Proposal for a Regulation establishing a framework of measures for strengthening Europe's semiconductor ecosystem (Chips Act), *COM(2022) 46 final*, Brussels 8 February 2022, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022PC0046&from=EN

[32] Fiott, D. (2021) "European Sovereignty: Strategy and Interdependence", *EUISS Chaillot Paper*, No. 169, 23 July 2021, https://www.iss.europa.eu/content/european-sovereignty.

draw from six EU programmes (Horizon Europe - Space Programme - Neighbourhood, Development & International Cooperation Instrument - European Defence Fund - Digital Europe Programme - Connecting Europe Facility).

However, there is still a need to acknowledge the specificities of the defence sector and the ways in which non-financial factors play a role in stimulating defence innovation. Indeed, countries such as the United States have sought to address those factors that are hindering defence innovation. Under its "Third Offset Strategy", the US acknowledged that the Department of Defence (DoD) was losing its ability to drive innovation and for this reason it sought to develop relations with civil innovators in "Silicon Valley"[33]. However, this drive has long-since fallen out of favour in the DoD as successive administrations after President Obama saw the "Offset Strategy" as being too technology-centric and not meeting the needs of warfighting.

Even though one study proclaimed that the US' "Offset Strategy" still led to a mindset shift in the DoD towards civil and defence innovation[34], the strategy failed to deliver in a relatively short time frame because of structural factors that continue to test the effectiveness of civil-defence synergy strategies. For example, it is not a simple affair to design an Intellectual Property Rights regime that will please both defence and civil actors working on an RTD project. Additionally, it is still questionable whether the Technology Readiness Levels (TRLs) of defence projects neatly line up with TRLs in civil and space projects. Consider that TRLs for the defence sector may have additional requirements (e.g. TRLs may require higher secrecy or performance levels). In this respect, one of the key lessons for the EU from the US "Offset Strategy" is that only a combined and interdependent industrial, institutional and regulatory push can ensure that European high-tech companies can be supported to provide strategic civil and defence technologies with a wide application across economic sectors.

[33] Fiott, D. (2018) "America First, Third Offset Second?", *The RUSI Journal*, Vol. 163, No. 4: pp. 40-48.

[34] Gentile, G. et al, "A History of the Third Offset, 2014-2018", 2021, RAND Corporation p. 73, https://www.rand.org/pubs/research_reports/RRA454-1.html#:~:text=The%20Third%20Offset%20referred%20loosely%20to%20a%20set%20of%20ideas&text=The%20corollary%20to%20this%20idea,required%20to%20confront%20peer%20adversaries. This mindset shift also extends to different service-level organisations, albeit in different ways. See: Stanley-Lockman, Z. (2021) "From Closed to Open Systems: How the US Military Services Pursue Innovation", *Journal of Strategic Studies*, Vol. 44, No. 4: pp. 480-514.

In Europe, the lack of a clear EU framework for dual use RTD&I and the 'exclusive focus on civil applications' of the Horizon Europe programme means that despite the dual-use opportunities offered by emerging and disruptive technologies and the strong support of third states (see US, China, Russia, Israel), Europe still finds it hard to 'exploit dual-use potential of research and reinforcing innovation', despite the declared Commission's intention since 2014[35]. In reality synergies are possible only at early research phases (TRLs 1-4) where research is still 'application-neutral'. Therefore, the theory and practice of civil-defence synergies are different things.

POLICY ENTREPRENEURSHIP: SYNERGIES BY DESIGN

If technological innovation since 1996 has led to greater calls for civil-defence synergies, then shifts in the legal-political foundations of the EU have provided opportunities for the Commission to advance the civil-defence synergies agenda. In this respect, it is worth reflecting on the "policy entrepreneurship" of the Commission: meaning, the ways in which the Commission has used defence market pressures, technological innovation and EU legal-political changes to advance policy. Indeed, the 1990s were not entirely conducive to civil-defence synergy policymaking because during this time the EU was confronted with the "pillar structure" founded by the Maastricht Treaty, which separated the Union's economic and security and defence efforts.

The Commission recognised early on that this compartmentalisation could dent the Union's ability to develop its defence industrial competitiveness. In this regard, the Intergovernmental Conference (IGC) for the Amsterdam Treaty[36] and the "Westendorp Report"[37] went some way to stressing the need for the development of European operational capabilities and the promotion of closer European cooperation in the field of armaments. At this moment, the Commission used the 1996 Communication to stress that

[35] European Commission, "A New Deal for European Defence", COM(2014) 387, Brussels, 25 June 2014, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0387&.
[36] The Treaty of Amsterdam, 97/C 340/01, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C:1997:340:TOC
[37] The Reflection Group established by the Corfu European Council of 24 and 25 June 1994 and chaired by Carlos Westendorp y Cabeza, Spanish Junior Minister for European Affairs, to produce a report on the challenges that need to be addressed at the 1996 Intergovernmental Conference (IGC).

'it will be easier for the IGC to provide the means for a European armaments policy if an efficient industry meeting Europe's security needs has been maintained in the meantime'.[38] Emphasising the defence-industrial elements of closer EU defence cooperation allowed the Commission to draw on its internal market expertise and to exploit the full potential of its commercial tools.

Such a move was encouraged by industry, however, even Member States started to recognise the growing importance of a European-level armaments policy. For example, 'on 30 June 1995 an informal group of EU/WEU experts produced a report setting out options, suggestions and recommendations for such a European armaments policy'. A month later, the Committee of Permanent Representatives (COREPER) 'set up an ad hoc interdisciplinary working party to identify areas for action by the Union' in armaments policy.[39] However, despite these developments the 1996 Communication did not result in any major shift in European civil-defence synergies because the Council of the EU was lukewarm towards the initiatives. Under the Italian Presidency of the Council of the EU, the Council called for a simple presentation of the Communication by the Commission to the 'Industry Council', but it would not be debated and neither would there be Council Conclusions on it.

Clearly, the Council was concerned that the Commission was seeking to self-aggrandise its own powers and competences by blurring the Community and CFSP pillars. Another concern was that greater Community involvement would complicate Member States' abilities to protect national defence industries. For example, a blurring of lines between defence and civilian technologies could make it harder for Member States to justify the invocation of Article 296 TEU (now Article 346 TFEU) in front of the European Court of Justice, thereby restricting the internal market provisions for the defence sector[40]. Additionally, a blurring of lines between civil and defence industries could complicate the

[38] Op. Cit., "Communication on the Challenges Facing the European Defence-Related Industry", p. 12,
[39] Op. Cit., "Communication on the Challenges Facing the European Defence-Related Industry", p. 3.
[40] Trybus, M. (2014) *Buying Defence and Security in Europe: The EU Defence and Security Procurement Directive in Context* (Cambridge: Cambridge University Press).

monitoring of full compliance with relevant national, EU and international law, including competition rules.[41]

Fast-forward to 2021, however, and the legal-political climate was more favourable to the European Commission's efforts. The 2007 Lisbon Treaty removed the "pillar system" that had once enforced a strict separation of commercial and defence policies. Additionally, the 2021 Action Plan built on new tools such as the EDF, which went some way to *de facto* increasing the Commission's role in security and defence. In this respect, one of the chief concerns of the Member States in the 1990s had weakened over time as the Commission took on much more responsibility for financing EU-level defence capability projects and research through the EDF. What is more, the Commission went a step further by institutionalising the EDF through the creation of DG DEFIS in January 2021.

Placing DG DEFIS within the Commission's broader internal market and industrial portfolio underlined the legal basis for the Fund, which is primarily geared towards fostering the competitiveness of the European defence industry. However, in creating DG DEFIS the Commission used the opportunity to bring together defence-industrial policy with its pre-existing space programme. Therefore, while DG DEFIS is the institutional expression of the EDF and the EU Space Programme it also embodies space research and innovation, as it runs the space research specific programme within Horizon Europe. In addition, a small administrative entity (a 'Unit') was created in the Secretariat General, the service of the President, to facilitate among other things the buy-in of all other DGs and EU Agencies. Unlike 1996, the Commission managed to embed its civil-defence-space synergy efforts in its institutional structures.

In addition to new financial tools and institutional structures, however, the reluctance of Member States towards the Commission assuming a more prominent role had ebbed away since 1996. Whereas Member States had a lukewarm outlook to the 1996 Communication, the European Council took far more interest in the 2021 Action Plan. Indeed, the 26 February 2021 European Council resulted in clear support for the Plan and Heads of State and Government went further by inviting the Commission 'to present a technology roadmap by October 2021 for boosting research, technology development and

[41] Fiott, D. (2019) *Defence Industrial Cooperation in the European Union: The State, the Firm and Europe* (London/New York: Routledge).

innovation and reducing our strategic dependencies in critical technologies and value chains'.[42] Though at first sight the request seemed similar to what the Commission already proposed under the Action Plan, there was a big difference: the Action Plan only looked at instruments under the Commission's responsibility, but the Leaders were in fact asking for proposals that went beyond that to also cover Member States themselves. The Commission presented this Roadmap as part of a 'Defence Package' in February 2022 and further support for civil-defence synergies were, unsurprisingly, still a priority. When EU leaders met again in Versailles for an informal Council on 10-11 March 2022, they yet again reiterated the need for civil-space and defence synergies.[43]

Furthermore, Member States were comforted by the fact that the Commission promised that the Action Plan would not imply any additional financial resources above existing programmes under the Multi-annual Financial Framework (MFF). Here, the Commission was keen to stress that the Action Plan was founded on a logic of "spending better rather than spending more". The Commission also made clear that the Action Plan would not lead to the revision of existing Regulations for financing programmes, especially as some of them had been difficult to agree in the first place. Beyond these two points, however, the Action Plan was welcomed by Member States probably because of its comprehensive focus on the various aspects of the civil and defence markets.

Unlike 1996, various Council Conclusions since the presentation of the Action Plan have underlined the importance of moving swiftly to ensure the Union's technological edge.[44] It is also interesting to note that the EU Strategic Compass on Security and Defence incorporates many of the deliverables identified in the Action Plan. References to the Observatory for Critical Technologies and the very same flagship projects identified in the Action Plan have made it into the Compass.[45] Here, it is noteworthy to see a Member State-driven process such as the Compass incorporate Commission initiatives without any difficulties.

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[42] European Council, "Statement of the Members of the European Council", Brussels, 26 February 2021, https://www.consilium.europa.eu/media/48625/2526-02-21-euco-statement-en.pdf.

[43] European Council, "Versailles Declaration", Versailles, 11 March 2022, https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf

[44] See Council Conclusions on Security and Defence, 10 May 2021, and the Council Conclusions on Competitiveness on 28 May 2021.

[45] Fiott, D. and Lindstrom, G. (eds.) "Strategic Compass: New Bearings for EU Security and Defence?", *EUISS Chaillot Paper*, No. 171, https://www.iss.europa.eu/content/strategic-compass.

CONCLUSIONS: SHOW-STOPPERS AND OPPORTUNITIES

In this paper, we set out to analyse the drivers of EU policy on civil-defence synergies and some of the defence industrial challenges the EU wanted to address. While we certainly share the assessment that it 'is too soon to tell whether [the 2021] action plan will be a game changer', we equally agree that 'its very existence and the direction to which it is heading are extremely positive elements for the success of the [European Defence Fund]'.[46]

So far, the implementation of the Action Plan appears to be going according to plan. Some of its actions are already being carried forward, including two flagship projects that were presented by the Commission in its February 2022 "Space Package": the proposal for a regulation for a Union Secure Connectivity Programme and the Communication for Space Traffic Management. The next flagship project (the Communication 'Drones Strategy 2.0') is also on track for adoption before the end of 2022. Either way, understanding the conditions under which the Action Plan could be made more of a success can help us avoid pitfalls and past errors. Thus, in our analysis we looked at three key drivers of policy change, and each one offered noteworthy perspectives.

Defence market pressures: the analysis showed that lower defence budgets, market fragmentation and the high costs of defence innovation have remained a constant driver for EU efforts in the domain of civil-defence synergies. However, the fact that such factors remain driving factors today is not a positive outcome: indeed, recurring strategies for innovation, SMEs, standards and dual-use research may point to the lack of success achieved by the EU since 1996. Clearly, the introduction of new tools such as the EDF can help to support the European defence industry, but many of the structural factors faced by the European defence sector cannot be addressed by financial instruments alone.

In this sense, we see the need for a more consistent and ambitious regulatory and financial approach to dealing with the structural deficiencies of the European defence market including the fragmentation of the defence market, duplication of demand and harmful

[46] Mauro, F. Simon, E. and Xavier, A.I., "Review of the Preparatory Action on Defence Research (PADR) and European Defence Industrial Development Programme (EDIDP): Lessons for the Implementation of the European Defence Fund (EDF)", Study for the Sub-Committee on Security and Defence, European Parliament, May 2021, p. 56, https://www.europarl.europa.eu/RegData/etudes/STUD/2021/653638/EXPO_STU(2021)653638_EN.pdf.

strategic dependencies, to name a few. Clearly, the European defence industry still requires strong political ambition and direction if it is to meet the challenge of growing international market competition and a worsening strategic landscape for Europe. Developing pan-European strategic projects, with the Commission's support, is a key way to maintain Europe's technological and strategic edge.

Technological innovation: the comparative analysis has revealed that of all the drivers of change, technological developments are perhaps the most far-reaching. While the 1990s saw a European need to grapple with the ICT revolution, the present period is marked by EDTs that threaten to up-end the defence sector. Artificial Intelligence and quantum computing, for example, are technology areas where civil rather than defence innovation is driving developments and the EU is starting to put in place strategies to address the major digital transition currently underway. However, while civil research is increasingly important to the defence sector, there is a need not to lose sight of the specific needs of the defence sector.

We find that the efforts taken by the EU and Commission in the area of strategic technologies is more than welcome. Given the market and geopolitical shifts underway, there is a growing realisation among Member States that certain technologies do not conform to "laissez-faire" market rules. In this sense, the EU's industrial strategies and its efforts to invest in key technologies is a coming of age for the Union. However, clearly there remains more scope to ensure that the EU helps develop strategic sectors that can support the EU's security and defence. In this regard, greater attention to the defence-related aspects of EDTs required and this is surely a role for the Observatory on Critical Technologies to fill.

Policy entrepreneurship: the analysis between the 1996 and 2021 synergy strategies also reveals how shifts in the legal-political foundations of the EU has enabled the Commission to play a more meaningful role in defence. The past 25 years have only seen the Union's financial resources and institutional capacities for the defence sector grow. This points to lower resistance from Member States towards EU-level responses for defence-industrial policy, although the 2021 Action Plan on Synergies has only now started to deliver on its objectives. Our assessment is that the Commission has played a key role in keeping civil-defence synergies on the EU agenda, even when Member States were reluctant to do so.

In this respect, the Member States should invest political energy into ensuring that the Commission can continue to deliver coherent technology and investment strategies.

However, the analysis of these three drivers of policy change since 1996 also help uncover further questions that still need to be addressed at the EU level, despite the relatively enthusiastic reception of the 2021 Action Plan when compared to its 1996 counterpart. In this respect, the above analysis invites us to ask a series of questions that may possibly serve as "showstoppers" to the successful implementation of the 2021 Synergies Action Plan, including (in no particular order):

1) *Clarity about the meaning of "synergies"*: although the Commission's Action Plan focuses primarily on the potential synergies between the EDF, on one side, and all other EU instruments, on the other (including Horizon Europe, the EU Space Programme etc.), there is a much broader question of civil-defence synergies in Europe today. For example, today some individual Member States struggle with synergising their own national efforts. There is a need a consider what further EU actions can address the fragmentation of civil and defence research efforts at the national level. There is also a need to create awareness to competent national / regional authorities on the potential synergies between directly managed and shared managed EU programmes. With the Roadmap of Critical Technologies that it presented in 2022, the Commission made it clear that there is scope to consider more joint EU-Member State research, joint procurement and co-ownership.
2) *The difficulties of civil and defence sector synergies*: clearly there is no quick or easy way to promote synergies between the civil and defence sectors.[47] We have seen how R&D requirements are different and that considerations about IPRs can hamper the incentive for civil and defence actors to work together. What is more, different export control regimes for dual-use and military equipment can be an additional obstacle to civil-defence research synergies. Recent efforts such as the EU Standardisation Strategy (2022) can certainly help exploit and promote civil

[47] Fiott, D. (2020) "Financing Rhetoric? The European Defence Fund and Dual-Use Technologies", in Calcara, A., Csernatoni, R. and Lavalléé, C (eds.) *Emerging Security Technologies and EU Governance* (London/New York: Routledge): pp. 42-57.

and defence standards[48], but the reality is that civil-defence synergies take time and persistence.

3) *The difficulties of supporting EU dual-use research*: there is no consistent "dual-use" approach in the EU's current regulatory framework, and this may cause difficulties. For example, Horizon Europe provides an exclusive focus on civil applications and the EDF an exclusive focus on defence research and development. Even the Internal Security Fund Regulation states that actions with a military or defence purpose are not eligible. This calls for a more creative use of existing financial tools such as the Connecting Europe Facility or the Cohesion Funds that do enable dual-use investments. Targeted support for SMEs and the European Innovation Council could also help support dual-use innovation in lower TRLs.
4) *Retaining the exclusive importance of defence investment*: although the 1990s were marked by lower defence spending and the conversion of older defence industries to the civil sector, today's realities are very different as Member States increase defence investment and seek to invest in Europe's Defence Technological and Industrial Base.[49] Therefore, the EDF must be given the time and financial support to grow into a larger and more effective policy tool in the future (especially with a view to the next MFF in 2028). In this respect, while the Action Plan is right to enhance synergies this cannot serve as an excuse for under-investment in defence or to roll back the EDF by EU Member States.
5) *Fully exploiting the potential of technology roadmaps*: developing these roadmaps is an effective way of setting technology objectives, identifying financing needs, addressing security of supply concerns. However, technology roadmaps will be of limited use if they do not bring together government, industry, civil society and academic actors. Bringing together these diverse actors also allows the policy community to better understand the technology needs and possibilities of each community, especially as TRLs differ from the civil, defence and space sectors. The European Commission seems the best placed institution in Europe to lead the development of civil-defence technology roadmaps. These can offer guidance to

[48] European Commission, "An EU Strategy on Standardisation: Setting Global Standards in Support of a Resilient, Green and Digital EU Single Market", *COM(2022) 31 final*, Brussels, 2 February 2022, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0031.

[49] European Council, "Statement of the Members of the European Council", SN 2/21, Brussels, 26 February 2021, https://www.consilium.europa.eu/media/48625/2526-02-21-euco-statement-en.pdf.

industry and Member States so that the 'research to procurement' cycle is targeted and quick.

6) *Invest in technology scoping and horizon scanning*: technology roadmaps can also be good tools for anticipating future technology trends and clearly there is a need for the defence sector[50] across Europe not to fall behind in critical domains such as AI or quantum computing. At the national level, initiatives such as France's "Red Team Defense"[51] or the European Defence Agency's Future Technology Foresight[52] exercise are creative and important initiatives. In time, the Observatory for Critical Technologies will also provide a standing capacity for technology scanning at the EU-level. Recently announced initiatives, such as the EU Defence Innovation Hub (under the Strategic Compass), the Innovation Incubator (under the Synergies Action Plan) together with national/regional innovation centres can form part of the Defence Innovation scheme (under the Defence Package) to enhance the cross-border innovation networks and further develop the Union's technology foresight capacities.

To conclude, it is not enough that the Member States are in a more supportive mode today when compared to the mid-1990s. Moving from the strategic necessity of civil-defence synergies to practical implementation is not easy. However, the geopolitical and technological climate today has changed when compared to the 1990s, and this gives hope that there will be continued political buy-in to the Commission's efforts in this area. In addition to hope, however, further persistence is required to use EU-level and Member States' financial tools in sync and to their fullest potential, as well as to work with the key stakeholders operating in civil and defence innovation. This is something that Member States now have to seriously consider, as it is clear that the EU budget alone is not enough. In this respect, the Commission's defence package was clear: 'While EU programmes and instruments provide significant funding to RTD&I activities for security and defence in the EU, the majority of funding for such activities still lies with Member States, and the fragmentation of security and defence markets remains a serious problem. Achieving

[50] Barbaroux, P. (2019) "Disruptive Technology and Defence Innovation Ecosystems: The Need for Dynamic Capabilities", in Barbaroux, P. (ed.) *Disruptive Technology and Defence Innovation Ecosystems* (London: Wiley, 2019): pp. 203-206.

[51] A project run by the French Defence Innovation Agency. See: https://redteamdefense.org/decouvrir-la-red-team.

[52] See, for example: https://eda.europa.eu/news-and-events/news/2021/05/12/eda-holds-technology-foresight-exercise.

technological sovereignty in some critical technology areas and mitigating strategic dependencies in others will require EU-wide coordination.'[53] The war in Ukraine has only underlined the importance of EU-level investments in military capabilities. The informal meeting of Heads of State and Government at Versailles, France, on 10-11 March 2022 called to intensify EU efforts to deepen civil-defence synergies. EU leaders also a growing trust to the Commission and EU joint collaborative developments. With the 'Versailles declaration' they invited the Commission to immediately prepare a study in investment gaps and propose new initiatives to strengthen the defence industry. They also agreed that increased defence spending should at least partially target identified strategic shortfalls and be tackled in EU collaborative formats.

While the focus now is on the war itself and measures to help refugees, enhance energy independence and to provide military equipment to Ukrainian forces, there is a need to focus on the long-term defence of the EU. Civil-defence synergies are a crucial part of EU security and defence and there is lot of political momentum that should be seized upon. There is every risk that if the correct pathway is not followed in the coming years, then anyone writing a similar study about EU civil-defence synergies 25 years hence may be disappointed. ■

[53] Op. Cit. "Roadmap on Critical Technologies for Security and Defence", p. 7.

#74
Policy Paper

EU CIVIL-DEFENCE SYNERGIES: Understanding the Challenges and Drivers of Change

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March 2022

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ARES GROUP

The Armament Industry European Research Group (Ares Group) was created in 2016 by The French Institute for International and Strategic Affairs (Iris), who coordinates the Group. The aim of the Ares Group, a high-level network of security and defence specialists across Europe, is to provide a forum to the European armament community, bringing together top defence industrial policy specialists, to encourage fresh strategic thinking in the field, develop innovative policy proposals and conduct studies for public and private actors.

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