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Opinion of the European Economic and Social Committee

Drone manufacturing industry: a case study to assess the outcome in a strategic sector of the different policies in place to enhance European strategic autonomy

(own-initiative opinion)

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1. Conclusions and recommendations

1.1. The unprecedented scale of the use of drones in conflicts highlights the urgent need to further develop a unified industrial policy in Europe that incorporates collective innovation, partnership and adequate regulation in key industrial sectors, and the need for deliberate integration and collaborative efforts between governments and industries to ensure the EU's global leadership.

1.2. The connection of the European Drone Strategy with the European Defence Industrial Strategy and the integration of the European Defence Technological and Industrial Base (EDTIB) to support domestic production of high quality/ capacity drones is essential for Europe's critical independence.

1.3. Recent developments in battlefields (Ukraine, the Middle East) show that drones can play a pivotal role, owing to the optimal and structured integration of their components, software and supporting networks.

1.4. The European Economic and Social Committee (EESC) continues to advocate improved collaboration and innovation and leveraging legislation like the AI Act and Chips Act to enhance strategic autonomy and bolster national security and economic growth.

1.5. The EESC emphasises that the need for coherence between military and civilian R&D will only grow as drones will use more automation, machine learning and Artificial Intelligence (AI). As the Drone Leaders' Group Report shows, more technological and administrative connections between different sectors are needed without compromising the budget allocated for R&D in both civil and military technologies. The EESC supports a harmonisation path aimed at streamlining the development of dual-use applications, enhancing efficiency and compatibility.

1.6. A strategic Drone Technology Roadmap for Europe is essential for critical drone technologies and dual-use drone systems likely to provide a structured approach to advancing drone technology.

1.7. Thorough consideration should be given to financially supporting potential investments in drone production and in integrating supply and value chains. The EESC notes that in particular, Europe's drone market features SMEs that crave the certainty that a steady flow of public procurement and specific financing schemes tailored to support R&D bring. Greater flexibility in competition policy should help broaden access to State aid programmes.

1.8. To advance the implementation of the Drone Strategy 2.0, several actions are proposed.

— Though challenging to implement, the U-Space Regulation is foundational to UAS operators. A common understanding of these new regulations is much needed.

— The EU should engage more actively at the global level, especially with regards to certification procedures.

— Societal acceptance of innovative air mobility operations is of the essence: EU support can bolster the overall aviation ecosystem, contributing to its growth and sustainability.

1.9. A concrete strategy should further take into account recent advances and needs in the field of civil protection, health care provision, climate change impact and competitiveness in the agricultural, transportation and logistics sectors.

1.10. The EESC supports any public and private stakeholders' initiatives at central and regional level that focus on the development of drone use training and education and the creation of a culture of responsible and safe use of drones and their services that will improve public trust and awareness.

1.11. The EU should also be prepared to create a consolidated strategy on developing a common counter-drone umbrella to face multiple risks related to hybrid threats, terrorist actions, aggression from other states, and even abuse at civilian level.

2. **Background to the opinion, including the legislative proposal concerned**

2.1. Though able to ride on and below land and water, drones considered in this opinion can be seen as all-weather, multi-purpose, relatively low-cost unmanned flying machines able to monitor, maintain and effectively operate all sorts of networks and grids, to enable precision farming, to secure speedy, ubiquitous home deliveries, to carry out rescue operations in hostile environments, etc. They thrive on a variety of leading-edge technologies: low-latency wireless connectivity, lightweight composite materials, high-performance electric engines, AI-powered controls, etc.

2.2. The European Drone Strategy 2.0 of 2022 makes it a priority to develop a safe and efficient drone ecosystem. The European Commission's joint communication ([1]) of June 2023 on a European economic security strategy proposed a common framework for economic security focused on developing the EU's industrial capacity, improving their competitiveness and enhancing economic independence in critical and strategic areas.

Since 2019, drones have been operated across the EU in compliance with Regulations 2019/947 and 2019/945. Priority being given to safety, three implementing regulations on U-space were adopted in 2020 to address air traffic management system for drones.

([1]) https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3358.

2.3. The EESC notes that while drones have been used for defence over the last 30 years. European military drone capabilities are lacking, while cheap, commodified, unmanned aircrafts successfully take on expensive missiles carrying leading-edge technology in Ukraine and the Middle East. The European defence industrial strategy, adopted in March 2024, highlights the fact that developing capacity to swiftly ramp up and achieve the mass production of drones can be identified as a key element of EU defence readiness vis-à-vis high-intensity conflicts. Despite the Commission's commendable determination to reap synergies between civil, defence and space industries, it is hard to make inroads into what is often seen as a nation's prerogative. However, this is the most critical success factor for the competitiveness of the European drone ecosystem and for the Union's defence capabilities. The rise of high-intensity conflicts leaves the EU no choice but for the Commission to invite Member States' armed forces to procure cost-effective, high-quality defence equipment and capabilities adapted to our new strategic environment from European suppliers, in keeping with the proper use of public money. **This is a compelling, urgent requirement** for fostering a viable European defence industry.

2.4. Due to drones' inherent cost-effectiveness, the EESC strongly recommends that the drone sector be taken as a pilot case for tailor-made public support. At present, the vibrant ecosystem of small but highly innovative and sophisticated players scattered across Europe mainly procures key components from abroad for lack of adequate market size. Furthermore, drone manufacturing is undergoing two game-changing developments: unmanned vehicles are substituting man-on-board as AI drives up their performance and the wide-ranging commodification of weaponry is driving down the price of effective systems of arms. The EU must help the European industry ride this potent twin wave to boost their global competitiveness: the future of Europe, both civilian and military, is at stake. Drones will be a good test for joint EU procurement, which has fared poorly thus far. Flawless cross-border coordination will help fully integrate the drone market into the single market. Should this goal prove overambitious, the EESC recommends that, true to PESCO spirit, the Commission nurture coalitions of the willing. These may result in a kind of 'Airbus of drones'. The challenges faced then, in the 70s, were equally daunting, and the outcome truly inspiring. Candidates who are dismissal of green efficiency, climate neutrality and respect for labour laws and democratic values should be discarded.

3. **General comments**

3.1. Major geopolitical tensions in Europe's periphery have highlighted increasing uncertainty, calling for urgent revisiting of economic and political critical dependencies and policy priorities at EU level.

3.2. The EESC's recent opinions ([2]) focused on matching the need to develop initiatives on the pursuit of strategic autonomy with securing critical infrastructure while improving competitiveness in the industrial sector, especially in the field of digital and space technologies, along with other opinions ([3]) stressing the importance of dual synergies between the civilian, military and digital sectors, have addressed how to serve the objectives of strategic autonomy, sustainability, sovereignty and critical independence. As scholar Paul Timmers submitted in a recent publication ([4]), 'strategic autonomy consists of the capabilities, capacities, and control to decide and act on essential aspects of our economy, society, and democracy. The challenge is to adapt policy-making to the reality of geopolitics and technology'.

3.3. The EESC considers that drones are born dual-use products. The European Commission acknowledges that 'they should therefore contribute not only to the objectives set out in the Sustainable and Smart Mobility Strategy (SSMS) but also to the objectives of the *Action plan on synergies between civil, defence and space industries* adopted in February 2020, and which includes an EU Drone Technologies flagship project'. The EESC supports the Commission's determination to see that 'civil-defence industry synergies will be systematically identified and exploited. They will improve the competitiveness of European industry and strengthen Europe's strategic autonomy, by allowing Member States to rely on competitive drone technology of European origin'.

([2]) Opinion of the European Economic and Social Committee on Joint Communication to the European Parliament, the European Council and the Council on 'European Economic Security Strategy' (JOIN(2023) 20 final) (OJ C, C/2024/2489, 23.4.2024, ELI: http://data.europa.eu/eli/C/2024/2489/oj).

([3]) Opinion of the European Economic and Social Committee on Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions — Action Plan on synergies between civil, defence and space industries (COM(2021) 70 final) (OJ C 374, 16.9.2021, p. 66).

([4]) https://link.springer.com/chapter/10.1007/978-3-031-45304-5_36.

3.4. Hybrid attacks and threats and non-conventional forms of warfare should also be taken into account when designing drones for deterring or countering certain unprovoked actions, such as terrorist attacks, biological weapons and individual or group violence.

3.5. The EESC also supports the European Commission's approach to adjust the regulatory framework for the use of drones based on the 'safety first' principle. It follows that awareness-raising campaigns must focus on local and regional authorities and populations to inform them of the benefits of drone use and to improve public trust in digital technologies.

3.6. Basic lines have been drawn between management and conceptualisation of drone use in the public sphere: light, safety-aimed regulation in civilian transportation and leisure use; complex rules and locked-in technologies in military applications. Caught unprepared by the war in Ukraine, Europe urgently needs to enhance economies of scale and dual synergies to strengthen its defence, starting with improved coordination within the European Commission.

3.7. Since scale matters in the competitive local production of each and every component of drones, the EESC calls for prompt actions and policies on drone production and on safeguarding a sufficient volume of raw partitions, semiconductors, chipsets and motors for drone assembly; these homegrown parts will substitute imports and reduce critical dependencies on raw materials. While more generally the EU should support Member States' efforts to devote most of their budgets to procure equipment and systems from European suppliers, the health of Europe's drone industry directly depends on how strong and autonomous the enabling technologies (from electric motors to composite materials or AI) will be.

3.8. Enhancing military capabilities: If 'European military drone capabilities remain less mature than in other regions of the world, whilst the potential contribution of military drones to future European Strategic autonomy is widely recognised', design, production and use of drone technology in the military sector should be more advanced and carefully monitored.

3.9. Our home market fragmentation forces the production of most drone-embedded electronics out of Europe. European companies currently buy components from vendors unaware of where these electronics originate. In this respect, the EESC appreciates the strong language used by the Commission in its Communication of 24 January 2024 on *Advancing European economic security: an introduction to five new initiatives* to warn against 'various actions that could seek to interfere with the legitimate sovereign choices of the EU and its Member States or otherwise weaponize economic dependencies in relations with the EU'.

3.10. The EESC supports the Commission's emphasis on standards and interoperability: Flagship actions 15 (a multistakeholder process to 'align certification requirements for civil and military applications towards those set by EASA while considering military specificities and existing military certification standards') and 16 ('new standard scenarios for civil operations that could facilitate corresponding military use cases') are worth supporting.

3.11. The EESC agrees with the Commission that 'developing state-of-the-art drones with higher cybersecurity requirements, particularly in the "open" and "specific" categories of operations, could provide a competitive edge for the EU industry'.

3.12. Economic and green efficiency call for gradually substituting the human factor and expensive aeronautics (helicopters or aircrafts) for responding to urgent crises. More generally, from regular monitoring of critical infrastructures to medicine or parcel delivery, to law enforcement and public order, drones are essential to a quick, healthy green transition.

3.13. Promoting coordinated R&D in digital technologies and the space and drone industries will nurture new tools likely to multiply exponentially (according to Drone Industry Insights ([5]), by 2030, the market for drones is expected to exceed EUR 50 billion) and enhance Europe's technological sovereignty provided that strictly implemented regulations deter technology leaks to non-EU actors.

([5]) Global Drone Market Report 2023-2030, https://droneii.com/product/drone-market-report.

3.14. As the EU deems the local production of drones to be a matter of sovereignty or strategic autonomy, the EESC recommends that, in addition to the joint procurement detailed in point 3.5, subsidies be made available to EU manufacturers, including for relatively low-tech items like electric motors and cross-border development be encouraged. Scaling up is indeed the only way for local producers to compete with third countries, hence the only solution for European armies to procure locally throughout the whole drone-related value chain.

3.15. Drone manufacturers' product line encompasses a variety of items, from light toys to 10-tonne flying bombers. This makes classification challenging, but the EESC agrees with the operation-centric approach taken by the Commission.

3.16. The EESC fully supports Flagship action 9 on the Commission's intention 'to continue to provide funding for R&I on drones and their integration into the airspace under the Horizon Europe programme and the EDF'. In more detail, Flagship actions 10 and 11 about possibly amending the existing financing/funding framework are also worth supporting.

3.17. Mobilising different financing schemes is essential for taking advantage of overlaps between high tech applications and critical raw material purchases for enabling innovative goods to be produced and for substituting conventional modes of air missions and transportation (manned missions, helicopters) with drones and unmanned missions. Accordingly, a bundle of options and mechanisms should be available either through standardised types of funding, Next Generation EU and national Resilience and Recovery Funds, or through customised European Investment Bank financial instruments or EU projects.

3.18. The EESC acknowledges that the development of drone manufacturing and the extensive use of drones must be associated with an overhaul of training and education curricula. Specific-content courses (similar to those for driving cars or navigating waterborne vessels) may prove instrumental for reducing the knowledge gaps among local populations, including professionals (postal officers, transport users, etc.), employees, citizens, government officials and even military forces.

3.19. Special attention should be paid to developing a culture of responsible and safe use of drones and their services and one of public trust, as laid out in Flagship action 4, that will allow the optimal use of drones according to the environment concerned. Local or independent authorities should be granted permission to adjust the framework for uses in protected areas, forests and lakes, and on sensitive targets etc. Best practices for similar means, such as skates, bikes and electric scooters should be explored to reduce certain risks of misuse.

The transport and logistics sectors

3.20. Employees and small firms need support to face the adverse impacts of the transition to automated transportation, deliveries, etc. In a critical overlap, the drone industry is in a position to afford the aerospace industry scale modelling and real-life testbeds for new prototypes and technologies, thus eliminating human risk and driving down the costs of experiments.

Health protection

3.21. A specific-content investment policy should be designed to attract funding and drone constructors in the field of developing tools that will facilitate tele-diagnoses and the transportation of medical material, medicine and medical tests to rural, overseas and distant areas.

Environmental/civil protection

3.22. DG ECHO's involvement in creating customised drone products for preventing, monitoring and assessing natural disasters is essential. This will entail common tools and harmonised processes for Member States in the field of environmental and nature protection (e.g. water, noise, waste and air pollution) and animal and civil protection.

3.23. The development of the drone market must be in line with the Green Deal and the circular economy priorities as set out in European legislation and policies.

Social responsibility/GDPR

3.24. The EESC acknowledges that citizens' confidence in digital technologies always improves as a result of clear rules and guidelines for protecting human rights and privacy. In this respect, the code of conduct on flying drones and the EASA's training videos ([6]) are a good start worth expanding and building upon via partners in social dialogue and civil society.

4. **Specific comments**

4.1. The European strategy for a drone policy should not see the drone industry as the exclusive prerogative of high-tech or military experts. Drones are already creeping up unnoticed in many civilian fields, such as postal services, public works, deliveries, arts and cinema. They shed new light on how we see nature, urban and rural development, our historical and cultural heritage.

4.2. The EESC cannot but second the Commission's expectations ([7]) that 'the drone eco-system will provide jobs, promote and protect European technological know-how and allow for growth opportunities for the EU economy as a whole, enabling European companies, including new SMEs to grow and flourish as global leaders'.

4.3. The agricultural sector should benefit more from the introduction of drone technologies for monitoring and assessing weather conditions, harvest capabilities, damage estimates and water use, and for productivity appraisals.

4.4. Highly skilled workers and scientists, in particular women, should be encouraged to participate in joint R&D projects in drone manufacturing, and trained on how to market them in a socially responsible way. EU grants should support R&D institutes at technical universities focused on drone R&D, as well as EU companies focused on developing related technologies, **with or without academic collaboration with R&D institutes or universities outside the EU.**

4.5. The EESC also agrees that 'drone services should be promoted on the basis of inclusivity, affordable access and sustainability, and not be restricted to the "wealthy few"'. However, this noble goal will not be met without appropriate support to manufacturers.

4.6. In terms of institutional coordination and the protection of democratic values, the EESC stresses that a regulatory framework for the use of drones is essential, so as not to put the democratic rights of people at risk. Governments and private owners should be banned from abusive drone conduct aimed at suppressing democratic rights. Therefore, the involvement of judicial and independent authorities in decision-making regarding the use of drones for public interest reasons should be regulated.

Brussels, 30 May 2024.

The President
of the European Economic and Social Committee
Oliver RÖPKE

([6]) https://www.easa.europa.eu/en/light/topics/flying-drone-how-be-safe-drone-pilot.
([7]) https://transport.ec.europa.eu/system/files/2022-05/Drone_Leaders_Group_Report_2022-04-26.pdf.