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NOTE

From:	General Secretariat of the Council
To:	Delegations
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Subject:	Draft Council conclusions on the Commission's communication on advanced materials - Presidency text

Delegations will find attached a Presidency text on the *draft Council conclusions the Commission's communication on Advanced Materials* with a view to the Research Working Party meeting on 11 September 2024.

Changes in comparison to doc. 11734/24 are marked in **bold underline** for additions and in ~~strikethrough~~ for deletions.

DRAFT COUNCIL CONCLUSIONS ON THE COMMISSION'S COMMUNICATION
ON ADVANCED MATERIALS

The COUNCIL of the EUROPEAN UNION

RECALLING

- its policy debate of 23 May 2024 on Research and Innovation (R&I) for advanced materials for Industrial Leadership, focused on the coordination of research and innovation on advanced materials between the Union and the Member States to avoid fragmentation, the application areas to be prioritised, and the best practices in the Member States¹;
- its conclusions of 23 May 2024 on Strengthening knowledge valorisation as a tool for a resilient and competitive industry and for strategic autonomy in an open economy in Europe, where it underlines the strategic importance of critical and emerging technologies – such as artificial intelligence, life-science technologies and advanced materials - in strengthening the Union's position in global value chains and driving its resilience and sustainability² ;
- its conclusions of 24 May 2024 on a competitive European industry driving our green, digital and resilient future where it stresses the need to promote advanced materials and circularity³;
- **its conclusions of 22 December 2022 on the New European Innovation Agenda which sets out an innovation policy to position the EU as a global leader⁴**;

¹ 9333/24.
² 10182/24.
³ 10127/24.
⁴ 15602/22

1. WELCOMES the Communication from the Commission on Advanced Materials for Industrial Leadership, published on 27 February 2024⁵, which sets out a European strategy to ensure **research, innovation and** industrial leadership in advanced materials, a key enabling technology. RECALLS that the communication **places European research and innovation on advanced materials as a launchpad for the twin transition**, addresses advanced materials under five different pillars ranging from research into future advanced materials under EU, and national **and regional** research programmes to production and use of already available advanced materials.
2. ACKNOWLEDGES that the demand for advanced materials is expected to grow significantly in the coming years in various ~~fields~~ **sectors**. UNDERLINES that the Union needs to accelerate research and development in advanced materials; ~~increase~~ **scale up** its innovation and manufacturing capacity; and accelerate the industrial use of advanced materials **to strengthen Europe's competitiveness, enhance its economic and research security and reinforce the its** resilience and strategic autonomy while preserving an open economy ~~of the Union~~.
3. RECOGNISES the necessity to ~~strengthen the advanced materials ecosystem across the Union~~ **create a dynamic, secure and inclusive ecosystem for advanced materials in Europe** that contributes to a competitive green and digital transition. CONSIDERS that such an ecosystem should ~~exploit~~ **build on** existing strengths, **tackle weaknesses**, support research, and development **and innovation** in the Union, and stimulate competitiveness and growth. **STRESSES in this context the importance of making use of European research infrastructures with the potential and unique capabilities to enable scientific breakthroughs in materials science.**

⁵ 7172/24.

4. RECALLS the importance for the next generation of advanced materials to be safe, sustainable and circular. CONSIDERS that these materials should **strive to be ‘safe and sustainable by design’ to achieve the Green Deal’s ambitions for zero pollution and a toxic-free environment and** offer solutions to meet ~~the zero-pollution ambition of the Green Deal and~~ the ambition of achieving a European Circular Economy, to contribute to the objectives of the Green Deal Industrial Plan - including the Critical Raw Materials Act, the Net-Zero Industry Act, and the objectives of the Chips Act – as well as to improve energy and resource efficiency. CALLS ON the Commission to identify as soon as possible criteria and policies to ~~reduce~~ **mitigate the risks of European strategic** dependencies on critical raw materials by means of advanced materials. RECOGNISES the necessity of **methods and assessment tools for the characterisation and testing of advanced materials and of** integrating circular economy principles and conducting comprehensive lifecycle assessments to ensure sustainable production, use, and disposal of advanced materials. ~~CALLS~~ **UNDERLINES the need to increase resource efficiency, promote** circularity and reuse of materials to reduce environmental impact and resource dependency.
5. HIGHLIGHTS that the Union, national and regional level priorities in R&I on advanced materials need to be coordinated and aligned with Union strategies on the twin transition and economic resilience. **RECALLS the preliminary priorities identified by the Commission communication, in the areas of energy, mobility, construction and electronics, as these are critical for the Union’s green and digital transition.** INVITES ~~CALLS on~~ the Commission to continue working with Member States to ~~develop~~ **agree on** common objectives and **identify the priority areas** for the research, and the **development and** deployment of advanced materials. ~~CONFIRMS the preliminary priorities, formulated by the Commission together with the Member States and industry stakeholders, in the areas of energy, mobility, construction and electronics, as these are critical for the Union’s green and digital transition.~~ **REITERATES the importance of co-creation between the Member States and the Commission to effectively progress our advanced materials R&I priorities.**

6. HIGHLIGHTS that priority areas should be revised and updated as necessary ~~in close cooperation with~~ in agreement between the Member States and the Commission, taking into account socio-economic, scientific, or technological developments, or following the further identification of common needs for joint actions. WELCOMES the approach to focus on future priorities for advanced materials as of 2025. NOTES that the next priority areas for advanced materials should cover sectors of outstanding importance from an economic, strategic and social point of view, ~~such as healthcare and the agri-food sector.~~
7. HIGHLIGHTS the critical role of digitalisation of R&I in advanced materials, in particular digital modelling tools, common data analytics/ontologies and artificial intelligence that have the potential to accelerate the discovery and the composition of new innovative materials. UNDERLINES the strategic importance of setting up a common digital infrastructure for advanced materials to fully exploit the potential of material's data and artificial intelligence in Europe to speed up the design and development of advanced materials throughout the whole lifecycle, taking into account the ecosystem of already existing research and technology infrastructures and data spaces such as the EuroHPC Joint Undertaking and the European Open Science Cloud. STRESSES that such common digital infrastructure should be a joint effort of the Union and the Member States, fostering contributions from both academia and industry.
8. NOTES the {Decision of the Commission} for a governance structure in the form of a Technology Council for Advanced Materials, which will coordinate the actions on advanced materials with Member States, ~~academia~~ research performing and funding organisations and industry. REQUESTS the Commission when setting up this forum to take into account existing structures, where relevant, and avoid unnecessary administrative burden for Member States and any overlaps with the decision-making role of the Council and the work carried out within the R&I Framework Programme's committees. WELCOMES the cooperation on common objectives and priorities with the ~~Horizon Europe~~ R&I Framework Programme Associated Countries, and with third countries, where relevant.

9. EMPHASISES that increasing public and private funding and investment in research, ~~and~~ development and innovation of advanced materials is key to the proposed actions. NOTES that the new ‘Innovative Materials for EU’ partnership is a ~~first~~ **further** step in joining forces between industry and academia and triggering more private investment ~~by industries~~. STRESSES that this new industrial partnership should embrace ~~an~~ **a transparent and** inclusive approach, striving for excellence ~~geographical balance~~ **and the widest possible participation across Europe** when establishing collaborations, in order to exploit knowledge, resources and expertise from the whole EU, paving the way for more resilient and interconnected industries. ~~WELCOMES~~ **NOTES** the discussions in the Joint European Forum for Important Projects of Common European Interest on advanced materials ~~as support for the first~~ **which could be play a key role in the** deployment of innovative advanced materials.
10. NOTES the intention of the Commission to support the development of advanced materials through dedicated funding and investment through the European Innovation Council. ENCOURAGES the strengthening, mobilising and managing of public and private investment through other EU instruments, in particular through the Innovation Fund, the Strategic Technologies for Europe Platform (STEP) and InvestEU. Therefore CALLS on the Commission to reinforce synergies and, on the Member States, to fully exploit the currently available synergies between EU funds and programmes relevant for the development of advanced materials. HIGHLIGHTS the need to ~~consider~~ **implement** synergies between such EU funding opportunities at their design stage, ~~as well as~~ **and encourage** synergies with national **and regional** funding.

11. ~~STRESSES~~ **RECALLS** that, in line with the Commission Communication of 25 November 2020 on Making the most of the EU's innovation potential: an intellectual property action to support the EU's recovery and resilience⁶, it is important to analyse the identified challenges in the area of patents, and more generally the protection of intellectual property rights, specifically for the advanced materials sector. ~~STRESSES~~ **RECALLS** that it is ~~therefore~~ essential to encourage developers of advanced materials to make best use of the guidance for knowledge valorisation. ~~INVITES~~ **RECALLS that** the Commission ~~to~~ **will** perform ~~as soon as possible~~ an analysis of the patent landscape and the needs of industry to identify necessary actions to revamp the Union leading role. ~~CONSIDERS that this analysis should also explore the possible need for an intermediary to centralise and manage scattered patent rights in the field.~~
12. RECOGNISES the critical role of Small and Medium-sized Enterprises (SMEs) and start-ups in **conducting research and development and** driving innovation in advanced materials. POINTS OUT that innovators and SMEs should be supported to design and test high-performance and sustainable materials ~~to promote the circular economy~~. UNDERLINES the necessity of support mechanisms such as grants, **financial instruments, equity investment,** incubators, mentorships, and access to infrastructure to help SMEs to overcome market entry barriers and scale up their innovations.
13. RECOGNISES the importance of the Open Innovation Test Beds as a pilot for future technology infrastructures and the need for a single-entry point to facilitate and accelerate industrial and commercial scale-up, in support to researchers, innovators, industry, and particularly to SMEs and start-ups. ~~ACKNOWLEDGES the importance to leverage public procurement to drive the demand for innovation and that this requires information sharing about state-of-the-art innovations available for procurers.~~ **HIGHLIGHTS the role of regulatory sandboxes and standards as enablers of innovation.**

⁶ 13354/20.

13a. ACKNOWLEDGES the importance to leverage public procurement to drive the demand of advanced materials. NOTES that this requires information sharing about state-of-the-art innovations available for procurers as well as better coordination between large buyers so that innovative firms can scale effectively and efficiently.

14. EMPHASISES that new skills are needed for innovative methods and tools, and the design and development of new materials. **NOTES the relevance of the contribution from the Academy of Advanced Materials to be launched by the Commission in collaboration with the European Institute of Innovation and Technology in 2024 as well as other already existing structures and programmes.** URGES the Commission to launch the Academy of Advanced Materials in 2024 in collaboration with the European Institute of Innovation and Technology (EIT). NOTES that the EIT has proven structures and experience in up- and reskilling the European workforce needed by the industry and the market, which is highly relevant for the research on advanced materials and the exploitation of research results. **ACKNOWLEDGES that skills in materials science, chemistry, engineering, and information technologies are especially needed. STRESSES that these skills need to be mapped and featured in related education and training programmes, including, the development and promotion of corresponding curricula and teaching methodologies at vocational education and training (VET), as well as higher education and training programmes for upskilling the future and current workforce in accordance with national competence and institutional autonomy.**

15. ~~ACKNOWLEDGES~~ that skills in materials science, chemistry, engineering, and information technologies are especially needed. ~~STRESSES~~ that these skills need to be identified and featured in related educational and training programmes, including, for example, the development and promotion of corresponding curricula and teaching methodologies at vocational education, as well as higher education and training programmes for upskilling the future and current workforce. RECOGNISES the importance of promoting Science, Technology, Engineering, and Mathematics (STEM) education, supporting vocational training **VET** initiatives, and facilitating career development pathways for researchers and professionals in this field **including intersectoral mobility mechanisms**. ~~UNDERLINES~~ that efforts should be made ~~in particular~~ to harness **address** women's talent by ~~addressing their~~ under-representation in STEM studies through ~~creating~~ **enabling** inclusive and supporting learning and working environments, ~~involving them in~~ **ensuring** hands-on experiences and internships, **and** promoting role models and mentoring, ~~and celebrating achievements~~. CALLS FOR the promotion and sharing of best practices and successful case studies in the development and application of advanced materials to foster learning, innovation, and replication of successful models across the Union.
16. ACKNOWLEDGES the ethical considerations and societal implications of advanced materials, including regarding health and environmental impact. STRESSES the importance of developing frameworks to address these concerns and ensure the responsible **production and** use of advanced materials. EMPHASISES the crucial importance of ~~gaining~~ societal acceptance for advanced materials to ensure their successful integration into everyday life and ~~industry~~ **economy**. Therefore, ENCOURAGES the Commission and the Member States to ~~develop an~~ **provide** extensive information ~~campaign~~ at Union, national, **regional** and local level with the aim to raising public awareness and understanding on advanced materials. CONSIDERS that this campaign could highlight the benefits, safety and sustainability of these materials, could address potential concerns and foster public trust, and, where relevant, it could be linked to existing communication ~~campaigns and~~ initiatives.
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