



Council of the
European Union

**Brussels, 1 June 2023
(OR. en)**

10033/23

LIMITE

**ERAC 9
RECH 264**

NOTE

From: General Secretariat of the Council
To: Delegations
Subject: A Coordinated Plan on Advanced Materials

ERAC delegations will find in Annex the document "A Coordinated Plan on Advanced Materials", with a view to the ERAC meeting on 21-22 June 2023.

Agenda point for the ERAC Plenary Meeting on 21/22 June 2023, Lund (SE)

A Coordinated Plan on Advanced Materials**Context**

Advanced materials are improved materials that provide a distinct advantage, particularly in relation to functional performance. They bring social and economic added value to (critical) raw materials in strategic application areas. Advanced Materials are important for the achievements of the goals set by the [Net Zero Industry Act](#) and the [Critical Raw Materials Act](#). They can alleviate the dependency on (critical) raw materials by applying material efficiency strategies during their design and across their lifecycle, contributing to a sustainable and circular economy. The [Communication](#) on a secure and sustainable supply of critical raw materials in support of the twin transition (COM(2023) 165 final) announces a Coordinated Plan with Member States on advanced materials.

Europe's materials research is a transversal industrial technology. However, Europe's technological sovereignty and strategic autonomy in advanced materials is challenged by market competitors in US, Japan and Korea. To secure the Union's strategic autonomy, and its capacity to deliver on the Green Deal, an active eco-system for the development of advanced materials needs to be nurtured and maintained in the EU. Research and innovation on advanced materials need to speed up the transition to the digital age. Dataspaces and digital tools (e.g. digital twins, AI) are needed to accelerate the design taking into account new societal requirements (e.g. safe and sustainable by design) and improve communication of data through value chains (e.g. digital product passport). Achieving these objectives will also require new skills.

A preliminary mapping study of national activities on advanced materials from an expert group of Member States and Associated countries, shows that 9 countries (AT, BG, DE, ES, FR, GR, NL, NO and TR) out of 15 have part of their research programmes dedicated to advanced materials, often with an application driven approach. The rest of responding countries (CY, CZ, EE, IL, HR and PL) have rather horizontal actions. In Horizon Europe advanced materials are covered in different pillars and clusters. ERA-NETs on advanced materials were funded under Horizon 2020 and coming to an end in 2026. They are keen to continue the collaborations and recognise the need to scale up ambitions.

A more coordinated approach across Horizon Europe and national programmes is needed to optimise the use of available resources, decide on strategic investments, ensure resilient value chains, and speed up innovation based on advanced materials. Such a coordinated approach would include a Research and Innovation Governing Board composed of Member States and the Commission. It would be tasked to recommend strategic priorities for R&I and align investments at EU, national and regional programmes.

A large stakeholder community is supporting actively the work towards a novel agenda for advanced materials via the Advanced Materials Initiative 2030¹. They have developed an Advanced Materials Roadmap², published in November 2022, and will publish a strategic agenda in March 2023. The strategic agenda calls for actions to accelerate the development and deployment of advanced materials with digital technologies; material efficiency strategies for resilient value chains; connect “technology push” and “market pull” with the support of technology infrastructures; efficient use of resources at EU and national level to set priorities and investments in strategic innovation areas.

Questions

1. Which cooperation and joint actions between the Commission, Member States and Associate Countries are needed:
 - To accelerate the uptake of digital tools for the design of advanced materials?
 - To ensure novel materials are sustainable and circular?
 - To align EU and national programmes?

2. What type of governance would be best to implement a coordinated plan as announced in the Critical Raw Materials Act?

Guidance and follow up

The discussion in ERAC and advice received will feed into the Commission Communication on a Coordinated Plan for advanced materials.

¹ <https://www.ami2030.eu/>

² https://www.ami2030.eu/wp-content/uploads/2022/12/2022-12-09_Materials_2030_RoadMap_VF4.pdf