ECRN

European Chemical Regions Network

ECRN position on the Advanced Materials Act

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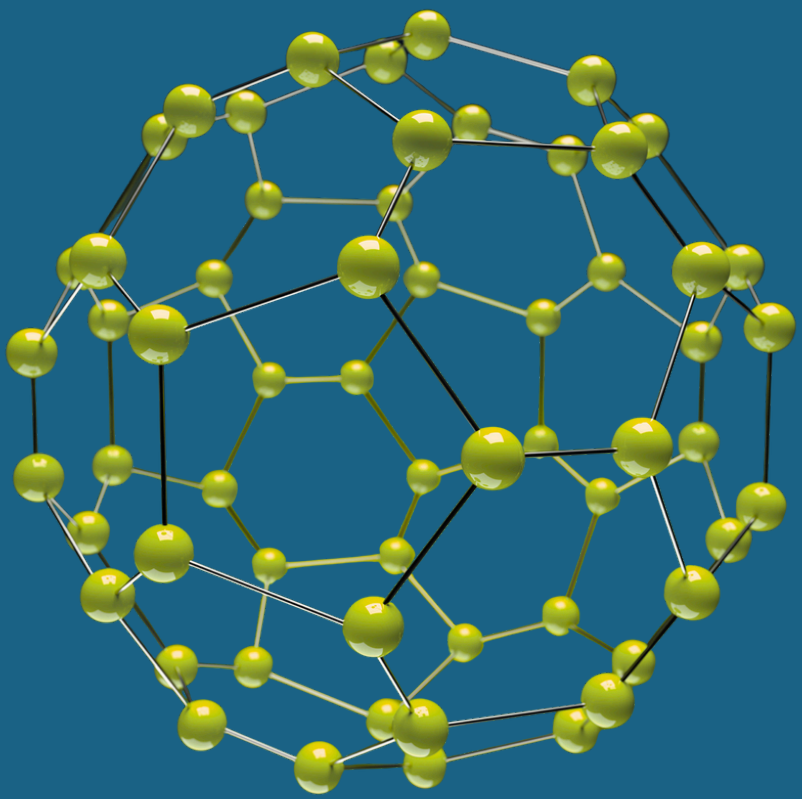

The European Chemical Regions Network (ECRN) welcomes the European Commission's initiative to develop an **Advanced Materials Act (AMA)** and strongly supports its ambition to reinforce Europe's industrial competitiveness, accelerate innovation, strengthen resilience and advance the green and digital transitions.

From the perspective of ECRN, the success of the AMA will depend on its capacity to **bridge the persistent gap between research excellence and industrial deployment**, while fully leveraging Europe's territorial diversity and existing industrial ecosystems. Regions are not peripheral actors in this process: they are where innovation is tested, scaled and embedded into value chains.

Regional ecosystems as the backbone of advanced materials deployment

Across Europe, advanced materials innovation is already embedded in strong regional ecosystems that combine research centres, universities, pilot facilities, industrial clusters, SMEs and large companies. These ecosystems can deliver high-quality research outputs and early-stage innovation, yet they face structural constraints that significantly slow down industrial uptake.

A recurring challenge is the **difficulty of progressing from laboratory-scale validation to industrial-scale production**. While early research stages are relatively well supported, access to pilot lines, demonstration plants, testing facilities and industrial validation infrastructure remains limited, fragmented or financially inaccessible, particularly for SMEs and scale-ups. As a result, promising innovations frequently stall before reaching the market

This contributes to the well-documented phenomenon of **long time-to-market**, which in the field of advanced materials often exceeds a decade. High capital expenditure requirements, lengthy qualification and certification processes, regulatory complexity and misaligned funding instruments further exacerbate this "valley of death".

Supply-chain resilience, circularity and sustainability

Advanced materials are also closely linked to Europe's strategic dependencies on critical and non-critical raw materials. Many advanced-material value chains rely on inputs sourced outside the EU, exposing European industry to geopolitical risk, price volatility and supply disruptions.

ECRN members observe strong momentum towards **circular and sustainable materials**, including recycling, reuse, secondary raw materials, eco-design and industrial symbiosis. However, these solutions often struggle to move beyond pilot scale due to insufficient industrial demonstration, lack of harmonised standards, regulatory uncertainty and weak market incentives.

The AMA has the potential to become a decisive instrument to accelerate the transition towards circular advanced materials, provided it supports industrial-scale deployment, market creation and regulatory coherence. This dimension is essential not only for environmental objectives, but also for strengthening Europe's resilience and strategic autonomy.

Skills, digitalisation and interdisciplinary capacity

The development and industrialisation of advanced materials increasingly require **interdisciplinary skill profiles**, combining materials science, process engineering, digital technologies, sustainability assessment and regulatory expertise. Across regions, there is a persistent shortage of such profiles, affecting both research organisations and industry.

Digitalisation — including modelling, simulation, artificial intelligence and data-driven materials design — is becoming a key accelerator for reducing development times and costs. Yet access to digital infrastructures and specialised training remains uneven. ECRN therefore considers skills development and digital capacity-building to be structural enablers of the AMA's objectives, requiring coordinated action across European, national and regional levels.

ECRN recommendations for the Advanced Materials Act

From a regional perspective, ECRN identifies several priority conditions for the effectiveness of the AMA.

First, the AMA should explicitly recognise **regions as implementation partners**. Regional authorities are uniquely positioned to connect European objectives with industrial reality, coordinate stakeholders, facilitate permitting and land-use planning, and support industrial symbiosis and circular infrastructures. Formal mechanisms for regional involvement in AMA governance would significantly strengthen its impact.

Second, the AMA should prioritise the development of **shared pilot, demonstration and validation infrastructures for advanced materials**. These infrastructures should be accessible to SMEs and scale-ups, organised in European networks and co-funded with regional and national authorities. Reducing investment risk at this stage is the most effective way to shorten time-to-market.

Third, stronger **alignment between EU, national and regional funding instruments** is essential. Fragmentation and administrative complexity currently slow down innovation and discourage participation. The AMA should promote coordinated funding pathways and clearer complementarities between programmes.

Fourth, the AMA should actively support **industrial-scale circularity** in advanced materials, including recycling, reuse and secondary raw materials. This requires not only technological support but also market incentives, standards and regulatory clarity, aligned with other EU initiatives such as the Critical Raw Materials Act and the forthcoming Circular Economy Act.

Fifth, ECRN strongly supports the introduction of **regulatory sandboxes** for advanced materials. Streamlined and harmonised testing, validation and permitting procedures would significantly accelerate innovation while maintaining high safety and environmental standards. Regions are well suited to host and operate such sandboxes in close cooperation with industry and regulators.

Finally, skills development initiatives under the AMA — including the proposed European Advanced Materials Academy — should be closely connected to **regional training ecosystems** and industrial needs, with a strong focus on scale-up, industrialisation and interdisciplinary competence.

The European Chemical Regions Network in a nutshell

Over the last 20 years, the European Chemical Regions Network (ECRN) has and continues to serve as the **collective voice of its member regions**, in which the chemical industry plays a crucial role in economic development, growth, and employment.

ECRN originally started as an INTERREG IIIc project in 2004, to help regions better tackle common challenges by exchanging information, exploring innovative solutions, and by speaking with a single voice in Europe. Today the network has grown from a temporary project to a **recognized European chemical stakeholder and a network full of expertise**. ECRN is a registered non-profit association under Belgian law and the network currently covers various European chemical regions, whose cooperation is supported by a Brussels-based secretariat.

We work together with European and regional chemical stakeholders and contribute to a range of policy areas from industrial policy, competitiveness, chemical regulation and REACH to skills, innovation, environment, and circular economy.

At ECRN, we advocate for a **stronger regional dimension in European strategies and policies related to the chemical industry**. We believe that the chemical industry can effectively respond to Europe's societal challenges with sustainable and innovative solutions if its economic growth is linked to territorial development. By bringing concrete local experiences and solutions into EU policymaking, the network aims to bridge the gap between policy elaboration and local impact.

We currently represent 16 regions in 7 different countries (Italy, Poland, Netherlands, Germany, Spain, Belgium and Czech Republic). Also, we have contributed to the Union policymaking with policy papers and participated in 11 EU-funded projects.

European Chemical Regions Network asbl
Pl. du Champ de Mars 5 1050 Bruxelles
office@ecrn.net
+32 471 52 83 31
www.ecrn.net