



Policy brief on first CASRI results

CASRI Deliverable 6.4

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CASRI

Collaborative Action coordinating and enhancing systemic, actionable and transversal Sustainability Research and Innovation

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EXECUTIVE SUMMARY

The Horizon Europe co-funded CASRI project strengthens the role of Environmental Protection Agencies (EPAs) and alike partners in the European Research Area by identifying and implementing shared priorities for environmental and sustainability research and innovation (R&I).

This policy brief presents key first-phase results of CASRI's first phase (Jan 2024–June 2025), CASRI provides a unique platform for bottom-up, co-designed agenda-setting by EPAs, European and national stakeholders—ensuring that environmental and sustainability research and innovation are grounded in real-world knowledge and implementation needs.

Based on the synthesis of over 600 R&I proposals from 14 countries and regions and the outcomes of a major transnational workshop, CASRI identified eight thematic themes—including four cross-cutting challenges (security, democracy, competitiveness, and digitalisation) that demand attention. CASRI also proposes new collaboration models that address current weaknesses in long-term coordination, funding stability and science-policy-practice integration.

This brief offers first recommendations to EU policy-makers and research programme designers to better embed EPAs into ERA, build lasting transnational R&I platforms, and reshape calls and funding tools to meet systemic sustainability challenges. The findings serve as a timely input to current debates on the future of Framework Programme 10 and ERA governance.

KEYWORDS

environment, sustainability, research agenda, collaboration, circularity, urbanization, biodiversity, climate, energy, transformation, co-design, networking, R&I



ABBREVIATIONS

| Abbreviations and Definitions | |
|-------------------------------|---|
| CASRI | Collaborative Action coordinating and enhancing systemic, actionable and transversal Sustainability Research and Innovation |
| CSA | Coordination and Support Action |
| EEA | European Environment Agency |
| EPA | Environment Protection Agency |
| ERA | European Research Area |
| ES R&I | Environment and Sustainability Research and Innovation |
| EU | European Union |
| IG EPAS | Interest Group Sustainability Research and Solutions |
| R&I | Research and Innovation |
| SDGs | Sustainable Development Goals |
| SPPI | Science-Policy-Practice Interface |
| SRIA | Strategic Research and Innovation Agenda |
| WP | Work Package |

Policy brief on results of CASRI

1 Introduction

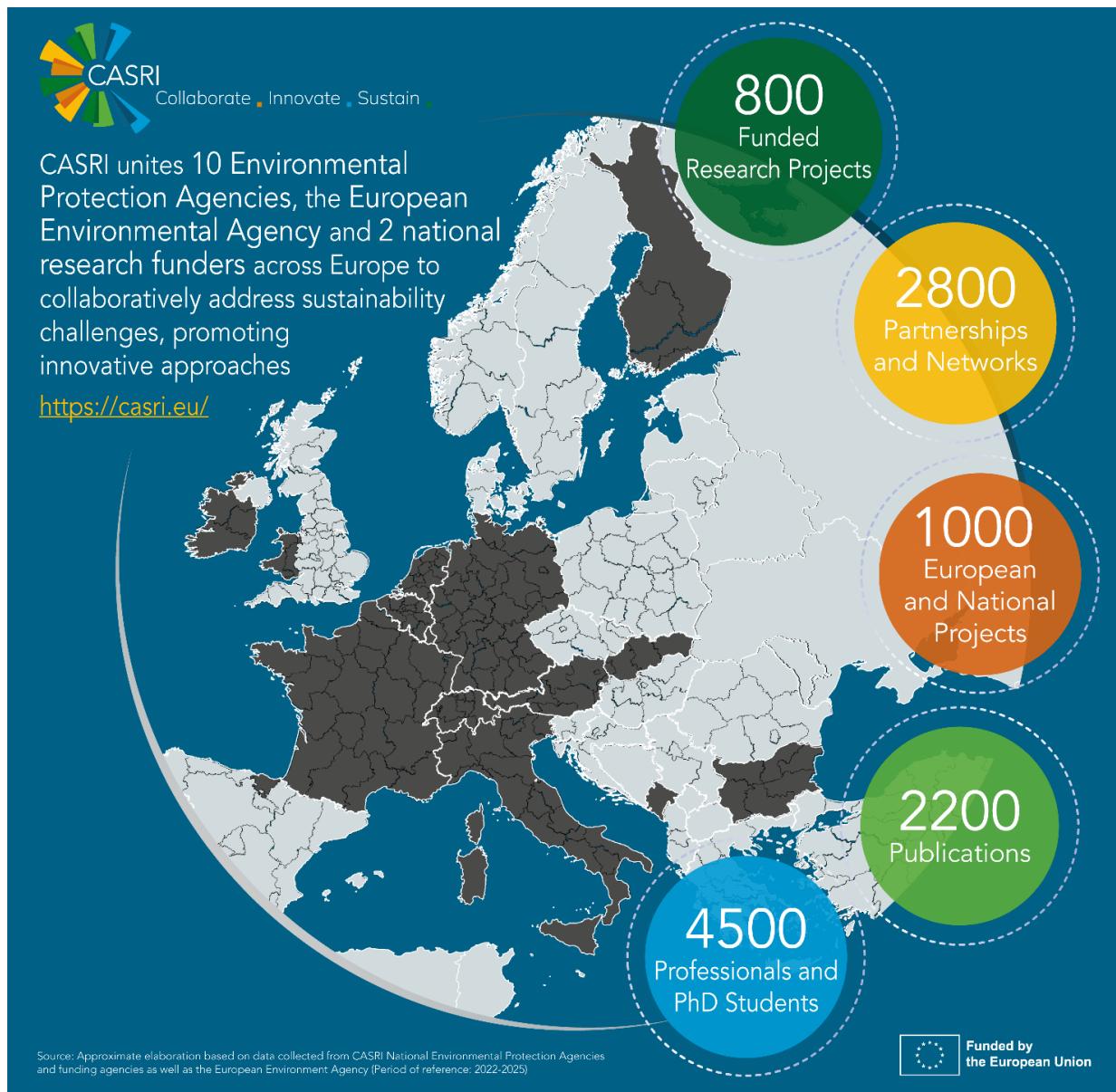


FIGURE 1 CASRI NETWORK AT A GLANCE.

The Horizon Europe Coordination and Support Action **CASRI – Collaborative Action coordinating and enhancing systemic, actionable and transversal Sustainability Research and Innovation** – aims to strengthen the role of Environmental Protection Agencies (EPAs) and alike partners in the European Research Area (ERA). **CASRI's added value lies in its focus on EPAs as unique connectors of science, policy and practice.** Unlike typical research actors, EPAs implement, assess, and help shape environmental policies on the ground. CASRI is the first initiative under Horizon Europe to collectively position these institutions as core contributors to the European Research Area.

Via a bottom-up, end-user and demand-driven approach, the project fosters a more integrated, strategic, and practice-oriented research and innovation (R&I) agenda for Europe's sustainability transitions. The project started in January 2024. **This is a policy brief focuses on first results and recommendations from CASRI's first phase** (i.e. Reporting Period 1, January 2024 – June 2025).

The project claim of CASRI is: **“Collaborate. Innovate. Sustain.”**

- **CASRI mobilises and unites research experts and knowledge innovators across Europe** to collaboratively address sustainability challenges, diving deep into understanding dependencies with environmental and climate issues, looking at the bigger systemic picture, and finding ways to positively inform and support transformative policy agendas.
- **CASRI is about creating new and innovative ways** to address the interconnectedness of sustainability challenges at national, European and global levels, and, therein, the support the implementation of Sustainable Development Goals (SDGs) at the national and European level. The CASRI project emphasises the need for systemic, actionable and transversal knowledge.
- **CASRI aims to influence and support sustainable policy-making** and decision-making, ensuring that research outcomes contribute directly to transformative actions on the ground, applying the developing processes of science for policy, as endorsed by ERA.

Therefore, the first key value propositions from the Coordination and Support Action are:

- **CASRI strengthens the connection between EPAs and the European Research Area** by coordinating and enhancing environmental and sustainability research activities, promoting innovative approaches, and pushing the utilization of research findings across Europe.
- **CASRI improves the science-policy-practice interface**, aligning research directions with the needs of policy makers and industry, facilitating the implementation of funding programmes that complement existing EU and member state initiatives, and fostering societal-uptake of R&I results.
- **CASRI focuses on impactful research and innovation**, supporting more active knowledge governance among the actors and thus ensuring that findings directly contribute to behavioural change, decision-making in industry, and sustainable policy-making.
- **CASRI fosters a robust transnational network**, uniting ES R&I funding agencies, public and private investors, and diverse stakeholders to collaboratively implement identified research and innovation priorities.

KNOWLEDGE NEEDS

Systemic

Empirical and theoretical (multi) disciplinary knowledge



Transversal

Multi-level, Multi-actor governance knowledge

Actionable

Knowledge on implementing actual change.

2 Key Research and Innovation Areas Identified

CASRI has taken a major step forward in identifying **shared environmental and sustainability R&I priorities across 14 European countries and regions**. The CASRI project gathered expert views on knowledge needs and gaps, focusing on four predefined themes of environmental and sustainability R&I. In total, over 600 individual proposals for priorities were collected in a systematic bottom-up approach (cf. Maring et al., 2025).

Based on this stakeholder engagement and a comparative analysis of national reviews, Lyytimäki et al. (2025a) specified **eight thematic R&I clusters**. The first four consist of themes that were predefined at the project start. These were designed to integrate several SDGs and link established Horizon Europe funding areas:

- **Resilient, Net-Zero Circular Production Systems:** a broad range of knowledge needs with a greater weight on traditional (mission-oriented) R&I objectives, particularly focused on industrial ecosystems and innovation. Broader public-oriented innovation needs come in second and tend to be focused on wider societal change, generally oriented towards equity and actor influence. Security of resource supply appears as an overarching concern.
- **Biodiversity and climate:** while both areas are already well-established in science and policy, specific attention should be given to their intersectionality and scaling out. Key issues include data utilization, governance of climate–biodiversity interactions, and regulatory and institutional frameworks for policy implementation. Ecological restoration and resilience of soil, water, and forest ecosystems are also central concerns.
- **Sustainable urbanisation:** solutions to environmental and sustainability challenges in urban areas. This involves the integrated strategic coordination of diverse actors, sectoral knowledge, resources, and land-use and legal planning processes to pursue shared goals of climate adaptation, environmental resilience, and social justice.
- **Nature- and environmentally friendly energy transition:** while the energy transition requires technological innovation, also transdisciplinary research and transformative action are needed. This includes social justice dimensions as well as aspects of governance, societal acceptance, environmental effects of energy infrastructure, land use and comparing scenarios. Overall, there is a need for active societal engagement to effectively balance ecological, economic, and social challenges.

Simultaneously, the project has identified four additional cross-cutting priorities of critical and political importance from the collected research demands and priorities:

- **Security and resilience:** e.g., supply chain risks, climate security;
- **Participation and democratic innovation:** e.g., public trust, just transitions;
- **Regulatory efficiency and competitiveness:** e.g., market-smart policy design; and
- **Digitalisation and Artificial Intelligence:** e.g., advanced monitoring, knowledge governance.

Overall, CASRI has collected a comprehensive, detailed and data-driven synthesis of shared transnational environmental and sustainability R&I demands (Lyytimäki et al., 2025a).

The eight **different themes intersect and overlap** reflecting the systemic complexity of sustainability transitions. Crucially, transversal and co-productive knowledge needs—connecting actors and levels of governance—are under-represented. This is an important area of further analysis and research. Together the thematic grouping creates a matrix of 4x4 representing political and societal challenges and opportunities. The resulting framework could capture all of the key issues identified from the data, while remaining open for new elements to be addressed (see also Lyytimäki et al., 2025a).

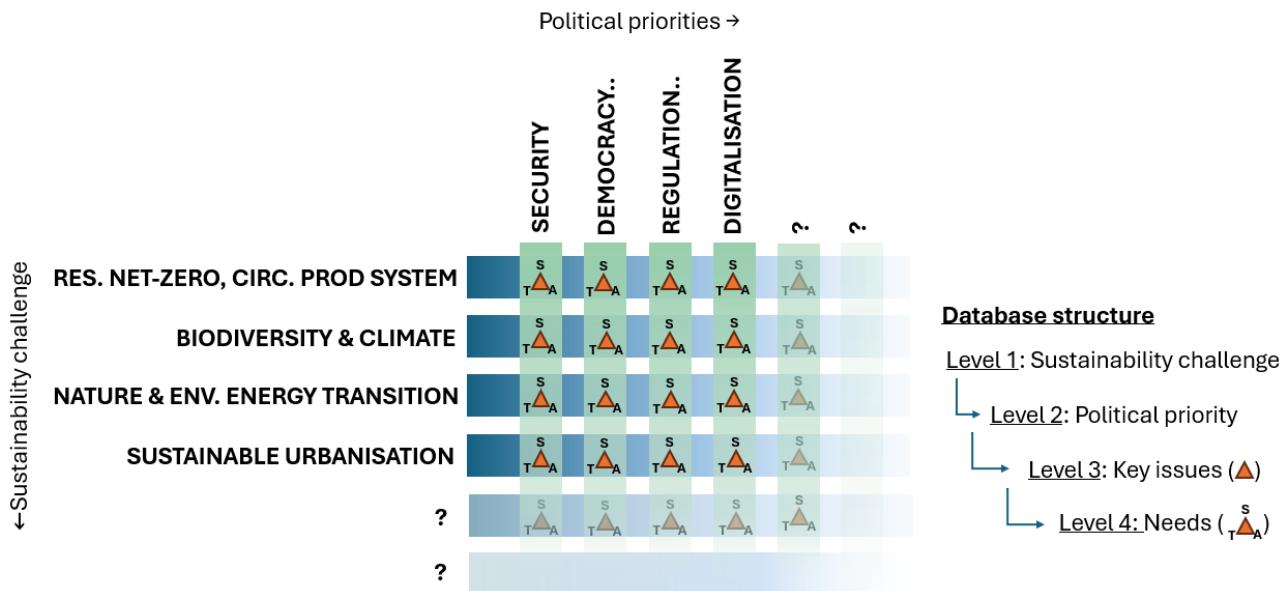


FIGURE 2 CONCEPTUAL FRAMEWORK GUIDING THE ANALYSIS OF COMMON THEMES (LYYTIMÄKI ET AL. 2025A).

3 Good Practices Identified

Transnational EPA Collaboration through IG EPAS

CASRI enforces the viability of sustained cooperation among EPAs and alike partners across Europe. Through the EPA Network and IG EPAS, agencies will co-design a Strategic Research and Innovation Agenda (SRIA), aligning national needs with EU ambitions. This model of peer-to-peer engagement can be scaled and institutionalized, as experimented via the close collaboration with the European Environment Agency and its stakeholders.

Co-Design of R&I

As elaborated in Firus et al. (2024), CASRI's funneling approach blends broad stakeholder engagement with iterative synthesis. This flexible yet structured method ensures inclusivity while delivering actionable research priorities. It balances national diversity with transnational coherence. Beyond CASRI, co-design approaches are promising to link R&I with actionable knowledge needs.

SPPI Insights

CASRI has collected best practice and innovation demands by more than 600 experts from 14 countries and is currently evaluating them: The SPPI analysis indicates a diversity of interaction models across Europe. A first result is shown in Figure 3 – highlighting the continuums of types of activities per foci of SPPI. A review paper is under preparation and is expected to be submitted by Dec. 2025.

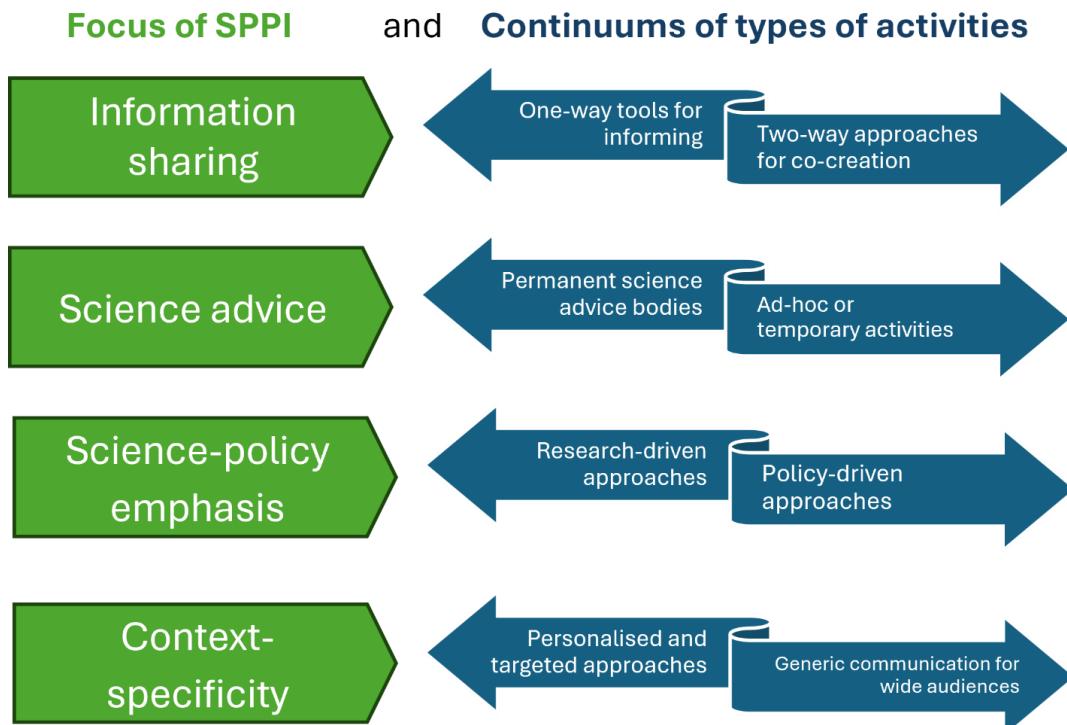


FIGURE 3 SPPI FOCI AND CONTINUUMS OF ACTIONS (LYYTIMÄKI ET AL. 2025B).

4 Recommendations for EU Policy-Makers

Recognise and Enable EPAs as R&I Actors

EPAs and alike partners are more than environmental regulators or monitoring institutions. Many operate as essential knowledge brokers and applied research actors with direct links to national implementation structures and science-policy interfaces. EU services and EPAs should identify more strategic and structured involvement of EPAs in ERA, including high level policy advice by investigating dedicated roles, participation schemes, and collaboration formats that reflect their contributions to systemic sustainability transitions.

Strengthen Support for Long-Term Collaboration Mechanisms

For agencies like EPAs, many existing ERA instruments—such as JPIs, COST, ERANETs—seem to be too fragmented, competitive, or academic in focus to fully mobilise their capabilities. CASRI calls for the co-creation of targeted, mission-oriented collaboration mechanisms that enable policy-relevant, transdisciplinary R&I across countries and governance levels. These should include hybrid funding models and institutional platforms to ensure sustained engagement and uptake. While CSA

models remain valuable for launching initiatives, they should be complemented by mid- to long-term frameworks that embed EPAs and other public knowledge bodies as core contributors to the ERA.

Mainstream Cross-Cutting Themes into R&I Calls

CASRI's first phase confirms that Europe's environmental and sustainability R&I must expand beyond sectoral silos and embrace cross-cutting societal challenges. While analyses are still ongoing, tentative results indicate that policy-makers should ensure the following themes are systematically integrated into future calls and work programmes, not as add-ons but as core priorities:

- **Security and Resilience:** Support research addressing climate and environmental risks to social, resource and territorial security, e.g. nature-based solutions for disaster resilience, critical infrastructure protection, supply chain risks and adaptation strategies at local and cross-border levels.
- **Democracy and Participation:** Prioritise projects that foster inclusive governance, social equity and trust in science. This includes co-design methodologies, transparent communication models, citizen science, and participatory urban planning to avoid deepening social divides in transition processes.
- **Regulatory Innovation and Competitiveness:** Support R&I that develops smart, adaptive and efficient regulation, e.g. ex-ante/ex-post assessments, cross-sectoral impact evaluations, digital tools for regulatory simplification and learning labs for testing new governance models in real-world settings.
- **Digitalisation and AI:** Focus on responsible, ethics-driven and environment-friendly digital transformation—especially in environmental monitoring, data integration and decision support. Key areas include capacity-building within agencies, development of policy-relevant ecosystem data tools and sustainable digital infrastructures.

Each of these themes connects to current EU priorities, and their effective integration into R&I funding would both advance the Green Deal and strengthen the ERA's relevance to society.

Support Co-Design and Co-Production at EU and National Levels

Encourage funding schemes that require or reward participatory research approaches involving local governments, national agencies, civil society and practitioners from the start. CASRI's funnel-shaped co-design methodology (see Firus et al. 2024) is just one example how to combine structured agenda-setting with bottom-up knowledge mobilisation. EU programmes should offer explicit incentives and frameworks for these approaches, supporting the ERA's goal to make science more impactful, inclusive and policy-aligned.

5 Challenges Encountered

The CASRI Coordinator collected the following challenges based on regular meetings of the CASRI Core Group (project partners with key responsibilities) and feedback from the International Advisory Board and from key stakeholders.

Commitment and Continuity

CASRI benefits from strong individual and institutional motivation in the European countries involved. This is supported by the EPA Network's Interest Group on Sustainability Research and Solutions (IG EPAS). However, fluctuating national political priorities with limited focus on the Green Deal implementation, evolving European policy priorities and reduced R&I emphasis on sustainability and environmental issues challenge continuity and full engagement of all partners. Notwithstanding, guided by both the green deal objectives and the common R&I challenges prioritized in this project, CASRI seeks to foster continuity and re-engage. CASRI's co-design "funneling" approach blends broad stakeholder engagement with iterative synthesis to build co-ownership (Firus et al. 2024, Bartke et al 2018). This flexible yet structured method ensures inclusivity while delivering actionable research priorities. It balances national diversity with transnational coherence.

Complexity of the Science-Policy-Practice Interface (SPPI)

Stakeholder engagement across 14 countries revealed a fragmented SPPI landscape. Many EPAs work within siloed systems and short-term project cycles, limiting their ability to inform policy systematically. CASRI's co-design methodology (Firus et al., 2024) provides a partial remedy by promoting adaptive research and assessments frameworks and inclusive, iterative, bottom-up agenda setting. However, structural SPPI barriers persist.

Institutional Capacity and Prioritisation

EPAs are key public actors at the science-policy interface and in policy implementation. They are partners in bridging between EU-level R&I strategies, national-level implementation and uptake. Yet many of them face structural limitations. Staff capacity and competing administrative obligations limiting the ability to fully prioritise R&I collaboration, especially during political uncertainty. On a specific project level, prolonged absences of staff and dynamic shifts in national agendas have further constrained resources. Opportunities lie in closer collaboration between the EPAs on the one hand and universities, other research institutes and economic and societal actors on the other. This would at the same time increase EPAs' capacity and strengthen the needed link between science and practice. CASRI provides a vehicle for such collaboration between EPAs as well as between EPAs, practice and policy making, thus linking European and local level.

6 The Broader Value of CASRI in Times of Uncertainty

Current geo- and regional political and societal dynamics—including global security concerns, rising populism, digital disruption, environmental degradation, escalating biodiversity loss and climate change—require a new mode of R&I governance. CASRI indicates that EPAs and partners alike, when connected and supported, can be stabilising actors in a volatile landscape. Their collaboration improves the relevance, legitimacy and uptake of research results. EPAs should be strategic partners for EU institutions in order to broaden the responsibility for effective environmental protection and nature conservation at a time when short-term political priorities are constantly shifting to other areas.

CASRI's strategic agenda and engagement methods can inform the next generation of EU research Framework Programmes as well as national/regional programmes, by contributing to bridge between EU-level strategies and national-level implementation and uptake in the field of environment and sustainability R&I.

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