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INSPIRING ERA

REPORT

INSPIRING ERA EXCHANGE in-person event on Science Communication in Research and Innovation

Science Communication in Times of Crisis and Misinformation

March 25, 2026

Introduction

The Mutual Learning Exercise (MLE) on Science Communication in Research and Innovation (R&I) was held on 25 March 2026 in Berlin at the Federal Ministry of Research, Technology and Space under the COALESCE and Inspiring ERA initiatives.

The event addressed the role of science communication in crisis contexts, with particular focus on misinformation, trust in science, and the capacity of R&I systems to respond effectively under conditions of uncertainty.

Within the European Research Area (ERA), science communication is increasingly recognised as a structural component of system performance, contributing to evidence-based policymaking, societal trust, and resilience. The MLE aimed to facilitate mutual learning and identify systemic barriers and enabling conditions for effective science communication in crisis situations.

Context

The discussions were situated within broader ERA policy developments, which emphasise the importance of coordinated, evidence-based governance supported by robust communication systems. Effective crisis communication is not limited to dissemination, but operates as a functional interface between knowledge production, decision-making, and societal engagement.

As in other ERA policy domains, system effectiveness depends on structured coordination, clearly defined institutional roles, and operational capacities for monitoring and response.

The increasing complexity of information environments, including the rapid spread of misinformation and the emergence of AI-generated content, further reinforces the need to treat science communication as a core governance function rather than an auxiliary activity.

Objectives

The primary objective of the MLE was to facilitate exchange of experiences and identify system-level challenges and solutions related to science communication in crisis contexts.

More specifically, the exercise aimed to:

- explore how science communication can be integrated into crisis governance systems
- identify barriers to effective, inclusive and timely communication with a focus on reaching underserved or marginalised communities
- examine national approaches and good practices
- contribute to the development of more resilient communication ecosystems within the ERA

Attendees

The event brought together around 30 participants from 13 countries across Europe. Both initiatives, COALESCE and Inspiring ERA, made use of their networks to reach a diverse audience of practitioners, be it researchers or policy makers.

Methodology

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The MLE combined expert input, national case presentations and interactive workshop discussions.

The plenary session included expert reflections on trust in science, communication dynamics and governance under crisis conditions. This was followed by national case snapshots illustrating different system configurations.

A dedicated workshop component structured the exchange into three thematic subtopics:

- Integrating Science Communication in Early Warning Systems
- Ensuring Equitable Access to Crisis Information
- Strengthening Resilience Against Misinformation

The workshop discussions enabled a detailed examination of systemic barriers and practical responses, complementing the analytical framing provided in the plenary session.

Key Insights from Plenary Discussions

The discussions confirmed that trust in science is a systemic outcome rather than a direct result of communication activities. It depends on the interaction between epistemic transparency, institutional credibility and alignment between scientific advice and policy decisions.

Misinformation was identified as a phenomenon that exploits gaps in communication, particularly when information is delayed, unclear or inconsistent. Scientific uncertainty, if not properly communicated, is often misinterpreted as contradiction or lack of competence.

Participants emphasised that reactive approaches to misinformation are insufficient. Effective systems require pre-established communication protocols, coordinated monitoring mechanisms and structured cooperation between scientific institutions, policymakers and media actors.

National experiences demonstrated that communication effectiveness is closely linked to governance structures, including the level of coordination, clarity of roles and degree of alignment across actors.

The expert panel reinforced these findings by underlining that effective science communication in times of crisis is determined long before a crisis occurs. Trust cannot be built in moments of urgency; it is the result of sustained investment in communication capacities, community relationships and societal resilience to false information. Evidence from recent crises, including COVID-19, demonstrates that public trust is a decisive factor for policy effectiveness, often outweighing structural or technical preparedness.

A key structural challenge is the persistent positioning of science communication as a secondary function. Experts highlighted that insufficient investment in communication infrastructures, human resources, monitoring systems and community engagement significantly weakens crisis response. Without these foundations, communication remains reactive, fragmented and less credible.

The panel also stressed the need for a multisectoral and distributed model of communication. In fragmented and polarised information environments, no single actor can ensure reach or credibility across all audiences. Effective communication therefore depends on coordinated action between public authorities, scientific institutions, media actors, fact-checking networks and civil society organisations. Trusted intermediaries and local actors play a critical role in translating knowledge and ensuring relevance across diverse communities.

Participatory approaches were identified as essential for building both trust and inclusiveness. Communities should not be treated solely as recipients of information, but as partners in communication processes. Involving communities in the design and delivery of communication enhances legitimacy, improves reach and strengthens long-term engagement, particularly among underserved or marginalised groups.

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The discussion further highlighted that uncertainty must be communicated early and transparently. In crisis situations, information vacuums are rapidly filled by misinformation. Effective communication therefore requires immediate engagement, clear articulation of what is known and unknown, and transparency about how knowledge is evolving. Evidence shows that acknowledging uncertainty, rather than avoiding it, strengthens credibility and trust.

Finally, the panel emphasised that resilience to misinformation depends on both rapid-response capacity and long-term preparedness. While monitoring systems, fact-checking infrastructures and coordination mechanisms are essential, technical solutions alone are insufficient. Sustainable resilience must be grounded in trust, transparency and continuous engagement across sectors.

Snaphots: Lessons Learned Across Member States

The country snapshots presented during the MLE provide a unique insight into how science communication operates under real crisis conditions. Representatives of seven countries (Spain, UK, Ireland, Portugal, Estonia, Lithuania, Germany) gave an overview on good practices and failures. Rather than illustrating isolated communication practices, these cases reveal how systemic configurations – including governance design, institutional trust, coordination capacity and science-policy interfaces – shape communication outcomes. Across countries, both successful and challenging experiences demonstrate that science communication is not an auxiliary function, but constitute an important component of crisis response effectiveness.

A defining example of systemic challenge is provided by **Ireland**'s CervicalCheck scandal, which exposed how communication breakdowns can amplify governance deficiencies. The constraint was not largely associated with a lack of scientific knowledge, but in the non-disclosure of clinically relevant information, unclear communication protocols and a fundamental inability to communicate scientific uncertainty. The probabilistic nature of screening was not adequately explained, contributing to public misinterpretation and, ultimately, a substantial decline in public trust, both to medical institutions and the state. Crucially, the case demonstrates that transparency mechanisms must be operationalised, not merely declared. Ireland's subsequent reforms — including the establishment of a National Science Advice Forum and strengthening of Science Media Centre (SMC) functions — reflect a shift towards more institutionalised science communication interfaces. The Irish case therefore embodies both constraints and recovery: a transition from reactive, fragmented communication towards more structured advisory and mediation systems.

In contrast, the **United Kingdom** provides a dual case of both communication success and systemic fragility. On one hand, the COVID-19 response showcased effective expert-led communication, with clear messaging on risk, public health measures and vaccine development. On the other hand, this effectiveness was undermined by inconsistencies between scientific advice and policy decisions, as well as media amplification of scientific disagreements. The UK experience demonstrates that visibility of expertise alone is insufficient; credibility depends on alignment across governance actors. A notable success case — the communication strategy around mitochondrial DNA donation — illustrates how early public engagement, structured deliberation and the use of trusted intermediaries (including SMCs) can enable societal acceptance of complex and ethically sensitive scientific innovations. The UK thus exemplifies the importance of coherence between communication, policy and societal dialogue.

Estonia represents a highly coordinated, digitally enabled model of crisis communication. Centralised governance, led by the Government Office, enables rapid and coherent messaging supported by real-time monitoring of public opinion and misinformation trends through social listening tools. The use of a single national information portal ensures clarity and accessibility. However, this model also highlights structural trade-offs: greater reliance on centrally coordinated expertise rather than independently embedded scientific actors raises questions about perceived autonomy and plurality of expertise. Estonia's case demonstrates the effectiveness

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of coordination and digital infrastructure, while also pointing to the importance of maintaining epistemic independence.

The case of **Spain** illustrates the structural challenges of multi-level governance systems. The distribution of responsibilities across national and regional authorities creates fragmentation in communication, limiting coherence and timeliness. Despite the availability of expertise, coordination deficits reduce overall effectiveness. Some take-away messages from the wildfires catastrophe in 2025 were summed up in the three stage: 1) Prepare: Agree on cross-institutional protocols, map communication channels, establish social partnerships, build a myth library for early pre-bunking. 2) Respond during crisis: publish one joint science-based brief per day, use the so-called ES-ALERT with clear, actionable instructions, pre-bunk rebuttal of misinformation. 3) Learnings after crisis: sustain social partnerships, evaluate reach and comprehension, publish a "myths vs. facts" audit and define next steps, update protocols and strategies.

Similarly, **Portugal** demonstrates the strengths and limitations of proximity-based systems. Close relationships between scientists and public authorities enabled rapid mobilisation during crises. However, reliance on informal networks limits scalability and consistency. The Portuguese case highlights the need to transition from relational coordination towards institutionalised frameworks capable of operating under increased pressure and complexity.

In **Lithuania,** structural constraints such as limited human resources and exposure to misinformation illustrate the vulnerabilities of smaller systems. At the same time, the presence of highly trusted national experts functions as a compensatory mechanism, stabilising communication in the absence of extensive institutional infrastructure. This suggests that trust capital can partially offset capacity limitations, though it cannot substitute for long-term system investment.

Germany did not present experiences of science communication in a real crisis, but showcased its new research funding programme, *"Trust in Democracy and the State: Detecting and Countering Digital Disinformation"*, aimed at strengthening capacity before disinformation escalates into crisis situations. The programme supports interdisciplinary collaboration across computer science, social sciences, psychology, education, journalism and civil society. A key feature is the active involvement of users throughout the research process, rather than positioning them solely as end recipients of communication. Expected outputs include detection tools, educational materials and new public communication formats, reflecting an integrated approach to addressing disinformation risks.

Across all cases, a consistent pattern emerges: science communication effectiveness in crises is closely linked to system integration, not messaging alone. Challenges occur where communication is delayed, fragmented or disconnected from decision-making, while effective systems ensure early integration into crisis governance, clear role allocation and the use of trusted intermediaries.

Overall, effective systems integrate communication into decision-making structures from the outset, rather than treating it as a downstream function. They ensure early and transparent disclosure, including clear communication of uncertainty and evolving evidence. They invest in institutionalised intermediaries (e.g. Science Media Centres, expert networks, observatories) that can translate complex knowledge into accessible formats at speed. They also maintain alignment between scientific advice, political action and public messaging, recognising that credibility depends on coherence across the system, not on communication quality alone.

Systems tend to underperform when communication is used to compensate for weak governance, particularly where information is withheld, delayed or selectively disclosed. Over-centralisation without safeguards for epistemic independence risks undermining trust, just as fragmentation without coordination leads to inconsistent messaging. Reliance on informal networks or individual experts alone, without institutional backing,

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limits scalability and resilience. Finally, avoiding or downplaying scientific uncertainty creates information vacuums that are rapidly filled by misinformation, accelerating trust erosion.

Workshop Findings

The workshop discussions provided a detailed understanding of system-level barriers and potential responses across three thematic areas:

- Integrating Science Communication in Early Warning Systems
- Ensuring Equitable Access to Crisis Information
- Strengthening Resilience Against Misinformation

Across participating experts, science communication is rarely embedded in early warning or crisis preparedness systems. Communication functions are typically activated after decisions are taken, rather than being integrated into risk anticipation and decision-making processes.

This results in delayed and reactive communication, limiting its effectiveness. Participants highlighted the need to integrate communication into early warning mechanisms, scenario planning and crisis coordination structures.

Embedding communication upstream would enable more timely, coherent and proactive responses, reducing the space for misinformation and improving public understanding. Ensuring equitable access to crisis information emerged as a fundamentally social and systemic challenge rather than a purely technological one.

A central barrier is the persistent deficit of trust in institutions and information sources. Trust is fragile and easily undermined in crisis contexts characterised by uncertainty and rapid information flows. The growing difficulty of distinguishing between reliable and misleading or AI-generated content further exacerbates this challenge.

Communication ecosystems are increasingly fragmented, creating parallel information realities. Different groups rely on different platforms and sources, making it difficult both to reach all audiences and to assess who remains excluded. This contributes to information fatigue and reduces the capacity to process critical messages.

Structural inequalities further limit access to information. Marginalised groups, including migrants, older populations and individuals with limited digital or scientific literacy, are disproportionately affected.

Participants emphasised the need to move from one-way dissemination towards participatory and trust-based communication models. Trusted intermediaries, such as community leaders and local organisations, play a key role in bridging gaps between institutions and citizens.

Adapting communication formats is also essential. The use of plain language, visual tools and diversified media formats improves accessibility. Communication strategies should be tailored to different audiences and contexts. At system level, stronger coordination across institutions and sectors is required, alongside improved monitoring mechanisms to identify which groups are effectively reached and which remain excluded.

Misinformation operates at high speed and exploits uncertainty, fragmentation and institutional gaps. National responses remain uneven and predominantly reactive. Participants highlighted the need for coordinated monitoring systems, rapid response mechanisms and closer integration between science communication and policy action. The role of intermediary actors, such as science media centres and observatories, was identified as particularly important in ensuring timely and credible information.

Building resilience also requires strengthening critical thinking skills and institutional capacities for fact-checking. Long-term strategies should combine technological tools with social and institutional approaches.

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Effective science communication in crisis contexts depends on capacities and relationships that must be developed before crises occur. Building such systems requires sustained investment in institutional infrastructures, human resources and monitoring tools, as well as a coordinated, multisectoral approach involving public authorities, scientific institutions, media actors and civil society. Importantly, trust cannot be established during a crisis alone. It must be built over time through consistent, transparent and inclusive engagement. Without these pre-existing foundations, communication efforts remain reactive, fragmented and significantly less effective.

Structural Implications

Across discussions, a consistent pattern emerges. Science communication is still positioned at the periphery of crisis governance systems in most Member States.

When communication is not integrated into governance structures, it is often delayed, fragmented and unable to reach all audiences. This creates favourable conditions for misinformation.

Conversely, effective systems are characterised by early integration of communication functions, clear institutional responsibilities and strong coordination between science, policy and media actors.

Crises act as stress tests, exposing both communication gaps and broader governance weaknesses within R&I systems.

Conclusions

The MLE confirms that science communication is a core component of R&I system performance and crisis governance.

Strengthening its effectiveness requires a systemic approach based on three key directions:

- integration of communication within crisis preparedness and governance structures
- alignment across scientific, political and media actors
- development of long-term capacities for inclusive and resilient communication

The findings highlight that communication cannot be treated as a standalone function. Its effectiveness depends on broader system design, including coordination mechanisms, institutional roles and societal engagement.

The outcomes of the Berlin MLE provide a basis for further work at EU level, including the development of common approaches, strengthening science-policy interfaces and supporting Member States in building resilient communication ecosystems.

Preconditions for effective science communication must be established before crises occur. Building resilient communication systems requires sustained investment in institutional capacities, human resources, monitoring tools and coordination mechanisms. It also necessitates a multisectoral approach, bringing together scientific institutions, public authorities, media actors and civil society. Crucially, trust cannot be generated in moments of crisis alone. It must be built and maintained over time through consistent, transparent and inclusive engagement with communities. Without such pre-existing foundations, communication efforts in crisis contexts remain reactive, fragmented and significantly less effective.

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