EIROforum

AI in Science Workshop Report

September 2026



TABLE OF CONTENTS

I. Executive Summary **3**
II. Background and Approach **6**
III. Summary **7**
Theme 1: Compute 7
Compute - Main take-aways from the consultation 7
Compute - Workshop Discussion 8
Theme 2: Data 8
Data - Main take-aways from the consultation 8
Data - Workshop discussion 9
Theme 3: AI Models and Algorithms 10
Main take-aways from the consultation 10
AI Models - Workshop discussion 11
Theme 4: Training and Upskilling 12
Training - Main take-aways from the consultation 12
Training - Workshop discussion 13
Theme 5: Partnerships and Governance 13
Partnerships and Governance - Main take-aways from the consultation 13
Partnerships and Governance - Workshop discussion 14
Proposed scope and priorities for the EIROforum AI Task Force **16**
ANNEX: List of Workshop Participants **18**

IMPORTANT: The report reflects the views and priorities emerging from the EIROforum consultation and workshop discussions and should not be interpreted as representing positions of the European Commission or other invited participants.

Contact: Anne-Charlotte Fauvel, Chair of EIROforum International Affairs Working Group (EMBL) - anne-charlotte.fauvel@embl.org

I. Executive Summary

Artificial intelligence is rapidly changing the way science is conducted, from data analysis and scientific modelling to experimental operations, software development and access to scientific knowledge. Europe's ability to capture these opportunities will depend on bringing together AI capabilities with the scientific infrastructures, data, expertise and communities that generate and use them.

EIROforum brings together nine of Europe's major intergovernmental research organisations: CERN, EMBL, ESA, ESO, ESRF, ESS, EUROfusion, European XFEL and ILL. Collectively, they operate some of the world's most advanced scientific infrastructures and bring together unique datasets, large-scale computing capabilities, interdisciplinary expertise and international scientific communities. This places EIROforum members in a strong position to contribute to the development, validation and deployment of AI for science, while providing demanding scientific environments in which new AI technologies can be tested and applied.

Against this background, **EMBL**, as Chair of EIROforum until June 2026 **organised a closed workshop on AI in Science in Brussels on 30 June 2026 as part of the International Affairs Working Group activities**. The workshop brought together EIROforum members and representatives of the European Commission to identify common needs, opportunities for collaboration and areas where action at European level could accelerate the responsible uptake of AI in science.

The work was structured around five themes aligned with the pillars of the Resource for AI Science in Europe (RAISE): compute; data; AI models and algorithms; training and upskilling; and governance and partnerships. Ahead of the workshop, EIROforum members contributed to an extensive internal survey assessing current AI activities, challenges and opportunities. The survey findings provided the basis for five moderated round-table discussions.

Across the five themes, a consistent message emerged: Europe already has many of the scientific assets needed to accelerate AI-enabled discovery, but these assets need to be better connected and made more accessible. EIROforum members can contribute advanced infrastructures, unique scientific data, domain expertise and demanding real-world environments for developing and validating AI. Realising this potential requires sustained access to European AI infrastructure, interoperable data and AI ecosystems, investment in skills, and governance arrangements that enable effective collaboration across institutions, scientific communities and industry.

The key messages below reflect the principal findings and priorities emerging from the consultation and workshop discussions.

Compute

- **Establish dedicated access models for European intergovernmental organisations.** Develop a long-term institutional access framework for EIROs to

EuroHPC and the AI Factories, with explicit eligibility and predictable baseline access complementing short-cycle competitive allocations.

- **Establish a European AI infrastructure framework for EIROs.** Access to compute should be combined with persistent large-scale storage, high-bandwidth data movement, federated integration and support for the full AI lifecycle, including training, inference and domain-specific model adaptation. Dedicated pathways for international research organisations would allow EIROs to make greater use of, and contribute greater value to, European investments.
- **Create a federated network of AI centres of competence for science.** Build on existing capabilities across Europe through domain-specific nodes, wherever possible hosted by EIROs, connecting advanced AI capabilities directly with scientific infrastructures and their user communities.

Data

- **Support the full data lifecycle sustainably.** Treat data infrastructure as a core pillar of AI in science alongside compute. Long-term and predictable funding is needed for storage, stewardship, workflows, governance, security, software environments and data re-processing.
- **Modernise and harmonise scientific data infrastructure.** Invest in interoperable, AI-ready and sovereign data systems. Shared standards, federated identity and modern data formats can facilitate cross-facility research and reduce technical barriers to AI-enabled science.
- **Align funding and governance for cross-facility collaboration.** Develop funding, intellectual property and governance frameworks that reflect the increasingly distributed nature of scientific collaboration and enable data, software and workflows to be shared responsibly across facilities.

AI Models and Algorithms

- **Invest in open, European-governed AI models for science.** Support the development, validation and reuse of scientific AI models, including domain-adapted and surrogate models built on distributed research data. Continued investment in trustworthy open-source foundation models, including LLMs, under European governance can strengthen scientific capability and reduce dependence on non-European providers.
- **Build interoperable and open scientific AI ecosystems.** Provide sustained investment in federated frameworks, common scientific data standards, shared methodologies and expertise networks that enable models and tools to be reused across scientific domains and research infrastructures.
- **Integrate fundamental-science communities as strategic partners.** Ensure sustained access to advanced AI infrastructure and dedicated support for scientific AI research. EIROs and their scientific communities can contribute demanding use cases, specialised datasets, validation environments and domain expertise to European AI programmes.

Training and Upskilling

- **Empower the existing workforce.** Invest in continuous upskilling, particularly for mid-career staff, and support embedded AI experts or “champions” who can work directly with scientific and technical teams to translate AI capabilities into practical applications.
- **Develop a coordinated and adaptable training approach**. Establish a common training framework covering areas such as deep learning, LLMs and agentic AI, complemented by facility- and domain-specific training. Responsible AI should be a core component, with dedicated responsibility for keeping materials current.
- **Address structural barriers to skills development.** Strengthen career pathways for research software engineers and other professionals combining scientific, software and AI expertise. European funding instruments should support training and upskilling, while closer links between skills programmes and access to EuroHPC and AI Factory resources can help translate training into practical adoption.

Partnerships and Governance

- **Federate existing capabilities rather than duplicate them.** European AI in Science initiatives, including RAISE, should connect and build on existing infrastructures, expertise and scientific communities. EIROforum can provide a coordinated interface to these capabilities and contribute to a federated network of AI centres of competence across scientific domains.
- **Develop governance models that enable access to critical resources.** EIROforum can help develop common positions on access to AI Factories, EuroHPC and EOSC-linked resources. Eligibility and allocation models need to reflect the sustained, large-scale and often data-intensive workloads of research infrastructures.
- **Support trusted science-industry partnerships.** Build on EIROs’ existing industrial relationships to support co-development, skills, procurement and innovation while protecting openness, scientific independence, data governance and access to results.

Within EIROforum, the workshop also identified a need for more structured coordination on AI, bringing together scientific, technical and policy perspectives to identify common priorities, share expertise and develop joint positions where EIROs face similar challenges. This coordination can also help translate the operational experience and scientific needs of EIROs into evidence-based policy recommendations and provide a coherent interface with relevant European AI in Science initiatives.

II. Background and Approach

The European Intergovernmental Research Organisation forum (EIROforum) brings together nine of Europe's largest research organisations: CERN, EMBL, ESA, ESO, ESRF, ESS, EUROfusion, European XFEL and ILL. The mission of EIROforum is to combine the resources, facilities and expertise of its member organisations to support European science in reaching its full potential.

Artificial Intelligence (AI) is rapidly transforming the way science is conducted, and EIROforum organisations are well positioned in this ecosystem. **They combine unique datasets, advanced computing capabilities, interdisciplinary expertise, member state governance and excellent science** that can drive innovation in AI methods while ensuring their responsible use in scientific discovery. As operators of Europe's largest research infrastructures, such as particle accelerators, synchrotrons, telescopes, space missions, fusion experiments, and advanced life science platforms, EIROforum facilities host some of the world's most complex and data intensive scientific environments.

On 30 June 2026, as Chair of EIROforum, EMBL, in collaboration with CERN, organised a closed workshop in Brussels to facilitate an exchange among member organisations and with the European Commission on the evolving role of AI in science.

The workshop was structured around **five moderated round-table discussions.** Topics selected for the roundtable discussions aligned with the pillars from Resource for AI Science in Europe (**RAISE**[1]), to ensure that contributions directly contributed to the implementation of the EC's strategy. With the exception of the governance session, each session was owned by one EIROforum member, responsible for preparing and moderating the session:

1. **Compute,** moderated by Alberto Di Meglio, CERN
2. **Data**, moderated by Jan Reerink, ESA
3. **AI models and algorithms**, moderated by Luca Gelisio, European XFEL
4. **Training and upskilling**, moderated by Vincent Favre-Nicolin, ESRF
5. **Governance and Partnerships**, moderated by Jonas L'Haridon SCIANCE project coordinator at European Science Foundation

Ahead of the workshop, EIROforum participants responded to an extensive internal survey across these five topics to better understand the state of advancement of AI uptake within each EIROforum member organisation, associated gaps and challenges, opportunities for collaboration. Participants were also encouraged to reflect on actions at EU level that would accelerate AI uptake in science.

[1] https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/our-digital-future/european-ai-science-strategy/raise-resource-ai-science-europe_en

III. Summary

Theme 1: Compute

Compute - Main take-aways from the consultation

1.1 Sustained and predictable access to computing resources is a central requirement. Short-cycle, competitive allocation models are poorly suited to multi-year scientific programmes and the large datasets generated by EIRO facilities. EIROs would benefit from institutional access frameworks that provide a predictable baseline of compute and storage resources, complemented by additional capacity for periods of peak demand. Clear eligibility conditions for intergovernmental research organisations are also needed to enable long-term planning and effective integration of European computing resources into existing research infrastructure workflows.

1.2 Data movement and storage are as important as computing capacity. Moving terabyte- to petabyte-scale datasets between facilities and external computing resources remains a significant technical and operational constraint, although tools to do that exist and have been in use for many years in limited domains and could be extended to other infrastructures and facilities. Effective AI infrastructure therefore needs to combine compute with persistent and version-controlled storage and high-bandwidth data-transfer capabilities. Data governance and sovereignty requirements, including access controls, embargo periods and regulatory obligations, must also be accommodated if EIROs are to make effective use of external infrastructure.

1.3 European AI infrastructure needs to integrate with existing research environments. EIROs already operate substantial computing and data infrastructures, supported by established identity systems, software catalogues and workflow tools. Access to external resources should therefore complement these environments rather than create separate systems. Compatibility with federated identity frameworks such as eduGAIN and MyAccessID, software distribution systems such as EESSI and CernVM-FS, and existing workflow and data-management tools such as Rucio or FTS would facilitate adoption and enable resources to be used across organisational boundaries.

1.4 Infrastructure should support the full AI lifecycle. As AI becomes more deeply integrated into scientific and operational workflows, infrastructure requirements extend beyond large-scale model training. EIROs also need resources for inference and the adaptation of models to domain-specific applications. Production-grade inference is particularly important for operational use cases, where dependence on external commercial application programming interfaces (APIs) may be unsuitable because of latency, reliability, data governance or sovereignty requirements.

1.5 Effective access also depends on skills, onboarding and sustainability. Existing onboarding models designed primarily for individual academic users or SMEs do not fully reflect the scale and organisational needs of EIROs. Institutional support, accessible

onboarding and training linked to real scientific workflows would help broaden the use of European AI infrastructure beyond specialist users. Energy transparency is another important consideration. Workload-level information on energy consumption and carbon footprint would enable EIROs to assess AI workloads and incorporate their use into existing institutional sustainability frameworks.

Compute - Workshop Discussion

The discussion strongly confirmed that **access to compute facilities**, rather than raw computing capacity alone, is the **immediate constraint for EIROforum members**. Participants described current project-based and short-cycle allocation procedures as poorly matched to facilities that operate long-running scientific programmes and need compute and storage on a continuous basis. Several organisations therefore maintain or expand their own data centres, even where European capacity does exist. This was seen as costly and potentially duplicative. Participants called for predictable institutional access to EuroHPC and AI Factories' resources, including capacity for rapid testing as well as sustained production workloads.

Participants also stressed that **compute cannot be considered separately from storage, data movement and integration with existing research infrastructure**. Scientific workloads can involve very large datasets, making high-bandwidth transfer, persistent storage and compatibility with established authentication, software and workflow environments essential. The ability to use external infrastructure therefore depends on an end-to-end service model, rather than access to GPUs alone. The discussion also highlighted the **need for clearer information and onboarding**. Some members reported **limited awareness of available European access routes,** while others found existing **procedures too complex for routine institutional use.**

A further concern was long-term reliability and strategic autonomy. As AI becomes embedded in scientific and operational workflows, facilities need confidence that infrastructure and access conditions will remain available over time. Participants noted the **high and growing cost of commercial model use** and the **risk that fragmented institutional investment could lead each organisation to build separate solutions**. The group saw an opportunity for European infrastructure initiatives to avoid this outcome, provided that EIROs are involved in the design of access and integration models and that the specific status of intergovernmental organisations is explicitly addressed.

Theme 2: Data

Data - Main take-aways from the consultation

2.1 Cross-organisational research requires interoperable data frameworks. Scientific collaborations across EIROs and other research organisations routinely involve multiple

institutions, with Memoranda of Understanding (MoUs) defining data ownership, access rights and responsibilities. Effective collaboration therefore depends on interoperable standards, appropriate licensing arrangements and mechanisms for sharing data securely across organisational boundaries. Funding and incentive structures, however, are not always designed to support these long-term, multi-organisational data ecosystems.

2.2 AI can improve access to and management of scientific data. AI-based tools can make complex datasets more accessible through natural-language interfaces, interactive visualisation and explanations adapted to different users. They can also support data curation and governance, for example by identifying anomalies or potential data leaks within datasets and processing pipelines. Such applications could help EIROs make better use of existing data holdings, provided appropriate safeguards are in place for attribution, scientific validity and data security.

2.3 Reproducible and AI-enabled science depends on a robust FAIR data ecosystem. Many EIROs continue to rely on established data formats and infrastructures that were not designed for cloud-based or AI-intensive workflows, creating interoperability challenges. There is growing interest in cloud-optimised formats and object-storage approaches that can better support distributed and data-intensive research. Shared standards and compatible governance arrangements are important enablers of collaboration across facilities. Reproducibility also requires preserving more than primary datasets. Metadata, software, workflows, publications and computational environments form part of the scientific record and need to remain accessible and usable over time. This is particularly important for re-processing existing data as AI capabilities improve.

2.4 Data-access models must balance openness with scientific and operational requirements. Embargo periods are widely used across EIROs to protect the interests of researchers who generate data while enabling subsequent access by the wider scientific community. Earlier access can increase data reuse and scientific impact, but it also creates additional demands for data processing, curation and distribution, particularly for facilities generating very large data volumes. Access policies therefore need to balance open-science objectives with ownership, scientific recognition and the operational capacity of research infrastructures.

2.5 The scientific data ecosystem requires sustained investment. Long-term storage is only one component of the cost of maintaining scientific data. Curation, metadata, software, security, data transfer, access infrastructure and specialised personnel all require continued support. Funding based primarily on short-term projects is poorly suited to infrastructure and datasets that may need to remain usable for decades. More predictable and sustained support is therefore needed to preserve data and associated resources, maintain FAIR and version-controlled repositories, and ensure that scientific data remain usable as technologies and research methods evolve.

Data - Workshop discussion

The discussion reinforced that **data quality and curation are prerequisites for effective use of AI in science.** Participants emphasised that producing reliable, well-described and reusable scientific data **requires sustained expert effort.** Several facilities reported that valuable datasets remain underexploited because metadata, ownership arrangements, interoperability or curation are insufficient for wider reuse. AI could itself support parts of this process, including curation and discovery, but participants cautioned that automated approaches still require appropriate controls for quality, provenance and scientific validity.

Participants discussed the European Open Science Cloud (EOSC[2]) as an important part of the European data landscape, while **noting practical barriers to deeper engagement**. Governance complexity, the handling of sensitive data and the maturity of end-user services were identified as areas requiring further development. The discussion also showed that **implementation of FAIR data principles remains uneven across facilities**. For some organisations, making data FAIR is a continuous operational effort rather than a one-off technical exercise. Questions of data ownership and rights can further constrain sharing, particularly in collaborative research environments.

Data volume and long-term sustainability emerged as major risks. Facilities are generating increasing amounts of data, while the resources needed for storage, curation, metadata, software preservation and reprocessing are not always covered by durable funding models. Participants therefore supported a broader conception of the data ecosystem that includes infrastructure, governance, software, provenance and expertise. Europe could add value by simplifying participation in shared infrastructures, supporting common approaches to data stewardship and ensuring that **funding models reflect the long time horizons over which scientific data retain value**.

Theme 3: AI Models and Algorithms

Main take-aways from the consultation

3.1 Demand is growing for domain-specific and agentic AI models. EIROs are increasingly exploring domain-adapted large language models and agentic systems, particularly for software development, data navigation, user support and knowledge management. More advanced applications include hypothesis generation and the interpretation of complex scientific data under human supervision. Looking ahead, some EIROs envisage integrating AI agents into experimental workflows, including data acquisition and analysis. Such systems are expected to progress gradually from assisted operation towards supervised and, where appropriate, bounded autonomy. This will require rigorous validation, well-characterised failure modes and appropriate human oversight at each stage.

3.2 Edge AI is increasingly important for data-intensive scientific facilities. In high-throughput environments, AI capabilities close to instruments and sensors can enable

2 https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/our-digital-future/open-science/european-open-science-cloud-eosc_en

data to be filtered and processed before reaching conventional storage and computing systems. This requires very low-latency inference compatible with strict operational constraints, alongside techniques such as model compression and quantisation for resource-constrained hardware. Robustness and predictable performance are particularly important where AI is integrated into scientific instruments or operational processes.

3.3 Trustworthiness is a prerequisite for operational adoption. The use of AI in scientific and operational environments requires robust validation, benchmarking, uncertainty quantification and appropriate human oversight. These requirements become particularly important for safety-critical systems and high-value scientific infrastructure, where AI models need clearly defined operational boundaries and formal risk-management processes. Trust also depends on traceability, including the ability to understand and reconstruct how AI-supported decisions were reached.

3.4 Greater model and methodology sharing could reduce duplication across EIROs. Similar AI capabilities, including anomaly detection, denoising, surrogate modelling and LLM adaptation, are being developed independently across several organisations. This duplication often reflects institutional and technical barriers rather than fundamentally different scientific requirements. Reuse remains constrained by data access and intellectual property rules, interoperability challenges, software sustainability and the need to establish confidence in externally developed models. Structured exchanges on methodologies, open-source software ecosystems, shared registries of reusable models and common benchmarking approaches could strengthen collaboration and reduce unnecessary duplication.

3.5 Specialised expertise remains a major constraint on implementation. Developing AI prototypes is only one part of the challenge. EIROs also need personnel who combine AI expertise with scientific domain knowledge and the skills required to deploy, validate and maintain models in production environments. Progress is constrained by fragmented access to large-scale training resources, uneven maturity in machine learning operations (MLOps), and limited expertise in areas such as scientific software engineering and model validation. More standardised approaches to model lifecycle management, deployment and maintenance could help move successful AI applications from individual projects towards sustainable operational use.

AI Models - Workshop discussion

Participants broadly supported the **development of strong European alternatives**, recognising the importance of control over scientific data, continuity of access and the ability to adapt models to specialised scientific needs. At the same time, they stressed that **researchers should be able to use the most suitable models currently available**, **including open models developed outside Europe, where European alternatives do not yet provide the required capabilities.** This was seen as important to ensure that European research remains competitive while European model capabilities continue to develop. Participants also recognised the significant investment required to develop and sustain advanced models, and the need for viable long-term operating and business models.

For EIROs, **the objective is not necessarily to reproduce every commercial frontier model.** The discussion pointed instead to scientific and operational use cases where specialised models can create value, including models trained or adapted for particular scientific domains, and tools that can work with scientific data rather than text alone. Participants also raised questions about where models are trained and hosted, how their dependencies are governed, and how organisations can retain control when relying on external providers or open-source projects whose ownership or business model may change.

The group also identified pooling and coordination as essential. Developing models, benchmarks and supporting tools separately in each organisation would duplicate effort and weaken critical mass. Shared European approaches could support reusable models, common validation methods and coordinated access to training resources. Participants nevertheless stressed that trust must remain a scientific requirement. Models used in research or operations need transparent validation, clear limits and appropriate human oversight, particularly where errors could affect expensive or safety-relevant infrastructure.

Theme 4: Training and Upskilling

Training - Main take-aways from the consultation

4.1 AI adoption across EIROs is broad but uneven. AI capabilities have largely developed through bottom-up initiatives, individual projects and the recruitment of staff with relevant skills, rather than through coordinated institutional strategies. Most facilities do not yet have structured, institute-wide AI training programmes, with training instead provided through informal channels, targeted workshops or project-specific activities. Responsible use of LLMs and generative AI is emerging as an important common element. Partnerships with universities, industry and other research infrastructures can strengthen training provision, but their availability and maturity vary considerably across EIROs. Greater coordination at European level could support the sharing of training resources and good practices, reduce duplication and improve consistency across institutions.

4.2 Training needs are shifting as AI tools become more widely used. While specialist skills in machine learning and deep learning remain important, demand is increasingly focused on tools that can support a much broader range of staff, including coding assistants, LLMs and agentic AI. A key challenge is therefore to extend AI capabilities beyond specialist teams and new researchers to the wider scientific and technical workforce. Particular attention is needed for mid-career staff, scientists, operators and support staff who may have fewer opportunities to acquire AI skills through existing training and career pathways.

4.3 Training needs to be tailored, continuously updated and responsive to different user communities. Facility-specific training linked to real scientific and operational workflows is generally more effective than generic courses. At the same time, the rapid evolution of AI tools means that training content can quickly become outdated. A common,

vendor-neutral foundation should therefore be complemented by regular updates and institution-specific content. Delivery models should also reflect differences between EIROs, including facilities serving many small and heterogeneous user communities and those supporting a smaller number of large collaborations. A modular approach would allow common training resources to be shared while retaining sufficient flexibility to address domain- and facility-specific needs.

Training - Workshop discussion

The discussion confirmed that **the most immediate skills gap concerns existing staff, particularly mid-career scientists, engineers, operators and support personnel.** Participants saw a need to help these groups use rapidly evolving tools, including LLMs, coding assistants and agentic systems, in scientifically responsible ways. **Training on ethics and responsible use was viewed as an essential baseline.** At the same time, facilities need **practical training connected to their own scientific and operational contexts**, rather than generic AI courses alone.

Participants supported a combination of common and facility-specific provision. A shared foundation could establish common terminology, core AI literacy, responsible-use principles and transferable skills, while domain-specific modules could address instruments, data analysis, control systems and other facility workflows. **Because the technology changes quickly, participants questioned the value of fixed handbooks or curricula that become outdated.** Regular exchange of experience, success stories and emerging practices was seen as particularly valuable. **Interactive schools and peer-learning formats were cited as useful models.**

The discussion also highlighted the role EIROforum could play in connecting existing opportunities and creating a community of practice. Possible instruments included joint training activities, mobility and secondments, embedded experts or AI champions, and links to European initiatives such as the AI Skills Academy and relevant researcher mobility schemes. The proposed EIROforum AI Task Force was identified as a potential mechanism to coordinate this exchange. Participants also noted the importance of maintaining scientific learning and judgement as AI tools become more widely used, so that **increased productivity does not come at the expense of core expertise.**

Theme 5: Partnerships and Governance

Partnerships and Governance - Main take-aways from the consultation

5.1 Alignment is most valuable where EIROs face common enabling challenges. The consultation identified strong scope for coordination on compute access, data governance, standards, skills, validation, and legal and compliance issues. A shared approach could reduce duplication, strengthen EIROs' collective position and facilitate collaboration across research infrastructures. At the same time, scientific priorities and some applications

should remain institution- or domain-specific, reflecting the different missions, data, operational environments and responsibilities of individual EIROs.

5.2 European governance should combine strategic coordination with practical cooperation. EIROs expressed a preference for mechanisms that enable continuous exchange and produce concrete outcomes, including communities of practice, joint technical working groups, shared reference frameworks and playbooks, and collaborative pilots or demonstrators. Governance arrangements should remain proportionate and closely connected to scientific and operational needs. EIROforum could provide the coordination needed to identify common challenges and develop shared approaches, while allowing implementation to remain adapted to individual facilities and scientific domains.

5.3 Common approaches should coexist with institutional responsibility for sensitive and mission-specific applications. While enabling technologies, methodologies and good practices can often be shared, responsibility for safety-critical applications, scientific validation, operational deployment and restricted data needs to remain with the relevant organisation. This is particularly important for AI integrated into instruments and control systems, as well as applications involving proprietary, personal or sensitive information. A common European framework should therefore support interoperability and knowledge exchange without replacing institutional accountability.

5.4 EIROs can provide a stronger collective interface with European AI initiatives. Several responses support a more formal role for EIROforum in European AI-in-science governance, including through a standing AI task force or technical coordination mechanism. Such a structure could provide a collective expert voice, coordinate positions on shared priorities and facilitate engagement with initiatives such as RAISE. The consultation also points towards longer-term cooperation through federated structures that connect existing research infrastructures, scientific communities and European AI capabilities rather than creating parallel systems.

5.5 Public-private partnerships can accelerate AI adoption while preserving scientific objectives. EIROs already engage with industry to varying degrees, from exploratory collaborations and procurement to established co-development and technology-transfer partnerships. Promising approaches include co-funded pilots, joint development, training and knowledge transfer, controlled access to scientific data and facilities, and staff exchanges. Effective partnerships require clear arrangements for intellectual property, data governance, publication, confidentiality and access to results. They should provide mutual scientific and technological value while safeguarding openness, reproducibility, data sovereignty and the independence of research infrastructures.

Partnerships and Governance - Workshop discussion

Participants supported a governance model that leverages EIROs' expertise in the design and implementation of European AI-for-science initiatives. Their operational experience with large-scale scientific infrastructure, international governance and research communities

could help shape realistic models for infrastructure deployment, access and scientific use. The discussion therefore favoured **sustained engagement between EIROforum and the European Commission, including through RAISE and related initiatives.**

There was broad support for **federating existing capabilities** rather than creating new structures where suitable networks, facilities and communities already exist. At the same time, participants noted that existing European networks have not always delivered the level of coordination needed by large scientific organisations. Any federated model should therefore have clear responsibilities, effective links between strategic and technical levels, and mechanisms that translate community input into implementation. The SCIANCE project's approach, combining expert working groups, broader community validation and strategic and policy-level engagement, was discussed as one relevant model for structured participation. Participants were encouraged to monitor the SCIANCE initiative and engage where relevant.

Industry collaboration was also recognised as strategically important, particularly for access to technology, skills, procurement and the development of usable AI solutions. Such partnerships need frameworks that protect scientific independence, data interests and long-term access. Participants saw value in pooling experience across EIROs on partnership models, intellectual property and procurement. More broadly, the discussion underlined that EIROforum can provide a collective channel through which the needs of fundamental science and large research infrastructures are represented in European AI governance.

Proposed scope and priorities for the EIROforum AI Task Force

Outcome of the workshop discussion

The discussion supported establishing the EIROforum AI Task Force as a focused, **time-bound "task and finish" group**, distinct from EIROforum's permanent Working Groups. Its role would be to address a limited number of immediate priorities where coordination across EIROs can add clear value, produce concrete outputs and recommendations, and identify whether any areas require longer-term cooperation (and the potential setting-up of a dedicated Working Group at a later stage, if deemed relevant).

The discussion identified several potential priorities for the Task Force.

- A **first priority** would be to map AI activities, expertise and successful use cases across EIROs, providing greater visibility of existing capabilities and identifying opportunities for collaboration.
- A **second** would be to develop common requirements and positions on access to European AI infrastructure, particularly AI Factories and shared GPU resources, reflecting both institutional needs and those of the scientific communities served by EIROs.
- A **third** would be to identify practical opportunities for sharing expertise, resources and approaches across organisations, including areas where more continuous collaboration could complement existing project-based activities.

The Task Force could also provide a mechanism for strategic reflection on EIROforum's contribution to the wider European AI in Science landscape. By bringing together the scientific expertise, infrastructures and domain knowledge of its members, it could help articulate where EIROs can contribute to European initiatives and how these capabilities can be used to maximise the impact of European investment in AI for science.

Suggested next steps

The Task Force should be established under the guidance of the EIROforum Coordination Group (CG), with a **target start date of 1 October 2026. Each EIRO should be invited by the CG Chair to nominate one to two representatives**, ensuring an appropriate balance of scientific and technical expertise and science policy perspectives. This balance will be important given the Task Force's dual role in identifying practical opportunities for cooperation and translating the collective experience and needs of EIROs into policy recommendations.

The Task Force should have **two co-chairs.** The co-chairs will be responsible for defining the mandate of the task force in agreement with the CG.

As a task-and-finish group, the Task Force should operate under a clearly defined mandate, timeframe and set of expected outputs. Following its establishment, the first meeting should agree on a limited number of immediate priorities and develop a work plan. The CG should provide strategic guidance and review the Task Force's recommendations, including any proposals for longer-term EIROforum cooperation on AI.

ANNEX: List of Workshop Participants

European Molecular Biology Laboratory (EMBL)

Plamena Markova, Chief of International Relations, Former Chair of EIROforum CG

Anne-Charlotte Fauvel, EU Relations Lead, Chair of the EIROforum International Affairs WG

Sameer Velankaar, Section Leader, Macromolecules, Structure, Chemistry and Bioimaging EMBL-EBI

European Organization for Nuclear Research (CERN)

Alberto Di Meglio, Digital Lead

Maurizio Pierini, Researcher

European Southern Observatory (ESO)

Claudio Reinero, Software engineer

Markus Wittkowski, Researcher

European Space Agency (ESA)

Jan Reerink, Section Head, Data Science

European Consortium for the Development of Fusion Energy (EUROfusion)

Frank Jenko, Director Max-Planck-Institut für Plasmaphysik – IPP

Denis Kalupin Coordination Officer, Programme Management Unit

European X-Ray Free-Electron Laser Facility (European XFEL)

Luca Gelisio, Head of Data Analysis

European Synchrotron Radiation Facility (ESRF)

Vincent Favre-Nicolin, Group leader, Algorithms & Scientific Data Analysis

Jayesh Wagh, Project Coordinator, IT Services Group

Institut Laue-Langevin (ILL)

Paolo Mutti, Head of Scientific Computing Division

Stephane Rols, Scientist

European Spallation Source (ESS)

Thomas Holm Rod, Head of the Data Management and Software Centre

Karin Rathsman, Manager Control System Machine Learning Project

European Commission

Liviu Stirbat, Head of Unit, AI in Science, DG RTD, European Commission

Eszter Fay, Policy Officer, AI in Science, DG RTD, European Commission

David Arranz, Policy Officer, AI in Science, DG RTD, European Commission

Helene-Orgaard IVERSEN, Policy Officer, AI Office, DG Connect, European Commission

Laurent Olislager, Policy Officer, Unit C2, DG Connect, European Commission

Patricia Postigo McLaughlin, Policy Officer, Open Science and Research Infrastructures, DG RTD, European Commission

Additional Guest

Jonas L'Haridon, SCIANCE Project Coordinator, European Science Foundation